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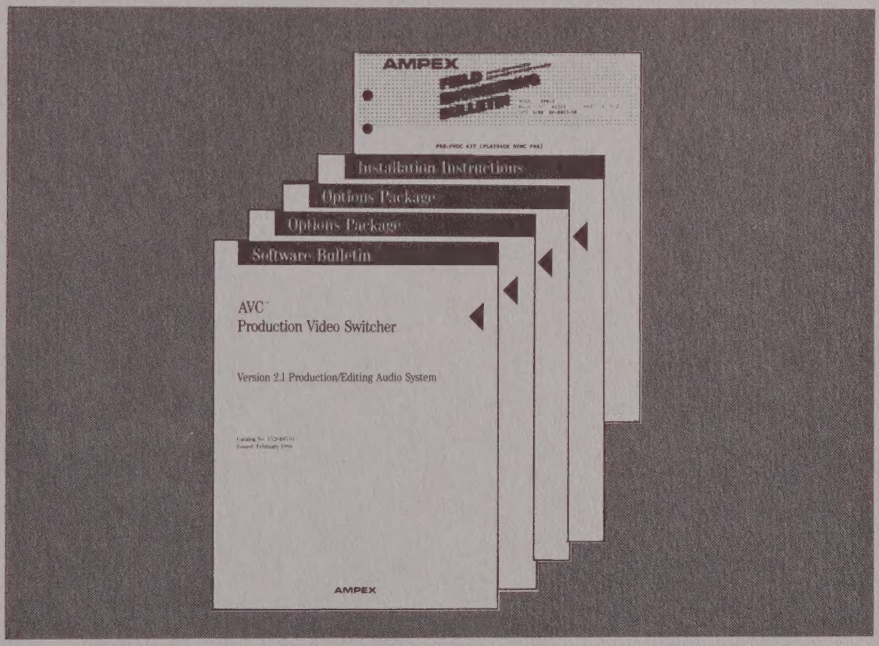

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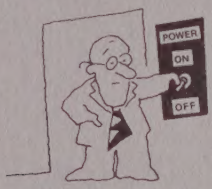
Safety and First Aid Suggestions

Regardless of how well electrical equipment is designed, personnel can be exposed to **dangerous electrical shock** when protective covers are removed for maintenance or other activities. Therefore, it is incumbent on the user to see that all safety regulations are consistently observed and that each individual assigned to the equipment has a clear understanding of the first aid related to electrical hazards.

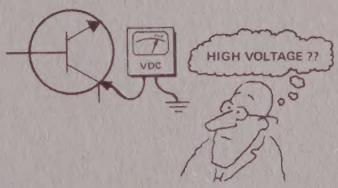
In addition, the following safety practices must be followed:



Do not attempt to adjust unprotected circuit controls or to dress leads with power **on.**

Always avoid placing parts of the body in series between ground and circuit points

To avoid burns, do not touch heavily loaded or overheated components without precaution.



Remember that some semiconductor cases and solid-state circuits carry high voltages.

Do not asssume that all danger of electrical shock is removed when power is **off.** Charged capacitors can retain dangerous voltages for a long time after power is turned off. These capacitors should be discharged through a suitable resistor before any circuit points are touched.

Don't take chances. Be fully trained. Ampex equipment should be operated and maintained by fully qualified personnel.

If someone seems unable to free himself while receiving an electrical shock, **turn power off** before rendering aid. Muscular spasm or unconsciousness can make a victim unable to free himself from the electrical power.

WARNING

DO NOT TOUCH VICTIM OR HIS CLOTHING BEFORE POWER IS DISCONNECTED OR YOU CAN ALSO BECOME A SHOCK VICTIM.

If power cannot be turned off immediately, **very carefully** loop a length of dry nonconducting material (such as rope, insulating material, or clothing) around the victim and pull him free of the power. Carefully avoid touching him or his clothing until free of power. Immediately start the appropriate first aid procedures.

Good Practices

In maintaining the equipment covered in this manual, please keep in mind the following, standard good practices:

When connecting any instrument (oscilloscope, waveform, monitor, etc.) to a high-frequency output, use the appropriate termination resistor at the input of the instrument, unless the instrument is terminally internally.

When inserting or removing printed wiring assemblies (PWAs), cable connectors, or fuses, always turn off power to the affected portion of the equipment. After power is removed, allow sufficient time for the power supplies to bleed down before reinserting PWAs.

When troubleshooting, remember that FETs and other metal-oxide semiconductor (MOS) devices may appear defective because of leakage between traces or component leads on the printed wiring board. Clean the printed wiring board and recheck the MOS device before assuming it is defective.

When replacing MOS devices, follow standard practices to avoid damage caused by static charges and soldering.

When removing components from PWAs (particularly ICs), use care to avoid damaging PWA traces.

Warning

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case, the user, at his own expense, will be required to take whatever measures may be necessary to correct the interference.

Note

This system was tested using the shielded interconnect cables provided with the unit. Failure to use the cables provided may result in radio interference outside acceptable limits.

Notice

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Cet appareil digital n'excède pas aux normes classe A pour bruits radioélectriques des appareils digitals dans le Règlements sur le Brouillage Radioélectriques du Bureau de Communications du Canada

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SECTION 1

GENERAL INFORMATION

1-1 INTRODUCTION

The *ACE 25 Operation* manual is divided into eight sections, three appendices, a glossary, and an index to make it easy for you to find the information you need.

The following items are discussed in this section:

- Basic layout of manual
- Which section to read first, considering operator's experience level
- Definition of ACE 25 in terms of its:
  - Function
  - Standard features
  - Design philosophy

1-2 HOW TO USE THIS MANUAL

This manual can be used in a variety of ways, depending on the operator's familiarity with the ACE 25 computerized editing system.

- If you are new to computerized editing, scan Section 8, entitled "Reference," to get a quick overview of the ACE 25 system, then move on to Section 2, "Getting Started," and the other editing sections in order.
- If you are moving from cuts only editing to A/B roll editing you may want to review Section 6, "A/B Roll Editing."
- If you are moving from a small LED-readout editor, or from machine-to-machine editing to CRT-menu based editing, see Section 5, "Basic Edit List/Display," for an orientation to data display.
- If you are an experienced editor, you may want to jump to Section 2, "Getting Started."
- If your ACE 25 is not yet connected, start with Appendix A, "Installation."

1-3 WHAT IS AN ACE 25?

The ACE 25 is a computerized editing system that controls a mix of audio and video tape machines and switchers. Based on standard 80286 microprocessor technology, ACE 25 is designed for production, news, and off-line editing.

Because of its compact design, unique internal switchers, and the ability to store and manage an edit list, ACE 25 can also be used for field editing, as well as more complex post-production editing, such as may be found in corporate/industrial applications.

The ACE 25's standard software provides the following capabilities:

- A/B rolls
- Slow motion edits
- Split edit control of entry and exit points for video and audio
- Auto-assembly
- Basic list management tools
- 1000 line EDL with full battery-backup
- Data display with soft keys
- GPI triggers
- Tag functions
- Sync roll
- Manual modes
- System diagnostics

The design philosophy behind the ACE 25 is unique in that it is built to be used by editors at several different experience levels.

- Beginning editors can start making basic edits in a very short time, bypassing some of the more advanced functions until needed.
- Editors with some experience but new to A/B roll editing will find the soft key menus a handy way to access functions that reside there.

- Experienced editors will recognize and quickly utilize all the options and advanced functions that might be needed for auto-assembly, edit list management, and control of peripheral devices.

The ACE 25 is a system that is designed to grow with an editor, or provide a highly flexible system to a number of editors.

The dedicated keyboard concept is a foundation principle of all ACE editors. "Hard" keys perform a specific single function every time without multiple key-strokes. "Soft" keys allow easy selection of many other useful functions from a variety of simple menus.

The rotary knob on the ACE 25 is a true multi-functional device; it can be used for:

- Transport control
- Scrolling the EDL (Edit Decision List)
- Moving EDL block markers
- Scrolling through system initialization windows
- Adjusting audio input levels on the optional internal audio switcher
- Adjusting equalization (EQ) parameters on the optional internal audio switcher
- Switcher fader arm control, in special "manual" modes

The ACE 25 is a member of a family of editors which includes ACE Standard, ACE Micro, and ACE 200.

1-4 CONVENTIONS

The following conventions are used throughout this manual:

- ACE 25 is also called "system," and "editing system."
- Hard keys (dedicated keys on ACE 25 keyboard with legends identifying their functions) are indicated in plain-faced CAPITALS. For example:

  Press SYS INIT

- Soft keys (eight keys at top of keyboard, without legends, and whose names change according to features requested and appear at bottom of display screen) are indicated in boldfaced **CAPITALS**. For example:

  Press **CONFIRM**

- Names of menus are written in initial caps and plain-faced type, and are always followed immediately by the word "menu."

  Pressing **CONFIG FILES** brings up the File I/O Function Choice menu.

- ACE 25's monitor is also called "display," "screen display," "menu monitor," and "CRT."
- Display messages in text are boldfaced and centered on separate lines.
- "Perform Edit" means press PREVIEW and EDIT simultaneously to record an edit.
- Paragraph headings appear in boldface and in styles that are depicted and ranked as follows:

  – **FIRST LEVEL HEADING**

  First level headings appear in uppercase and on a separate line from text.

- ## Second Level Heading

  Second level headings appear in initial caps and lowercase, underlined, and on a separate line from text.

- ### Third Level Heading

  Third level headings appear in initial caps and lowercase, and on a separate line from text.

- **Fourth Level Heading**. Fourth level headings appear in initial caps and lowercase, underlined, followed by a period and with run-in text.

SECTION 2

GETTING STARTED

2-1 INTRODUCTION

The following items are discussed in this section:

- Quick orientation to ACE keys and ACE terminology
- Disk Management procedures
- How to initialize ACE 25 system:
  - System Options
  - Hardware Options
  - Audio Options
  - Engineering Options
- Configuration File procedures
- Suggested pre-editing procedures

2-2 ACE 25 KEYS

The keyboard is your interface with ACE 25. For all types of control, the keyboard uses "hard keys," "soft keys," and a rotary knob. Paragraphs 2-3 through 2-10 provide basic information on the following:

- ACE 25 keyboard and rotary knob
- ACE 25 hard keys and soft keys
- HOME hard key

- **RETURN** soft key
- **MORE** soft key
- **CONFIRM** soft key

2-3 Keyboard

To set up and learn how to use the ACE 25, you need to know your way around the keyboard. The keyboard is based on a system of dedicated hard keys grouped by function, and on soft keys which change their function via on-screen menus.

2-4 Hard Keys

Hard keys are dedicated keys with legends identifying their functions (see Figure 2-1). When pressed, these keys will *always* activate the same ACE 25 functions.

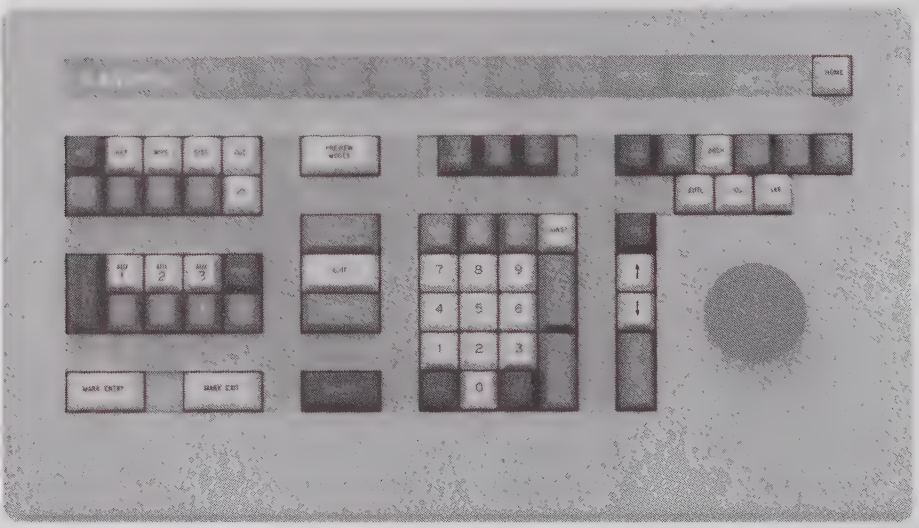

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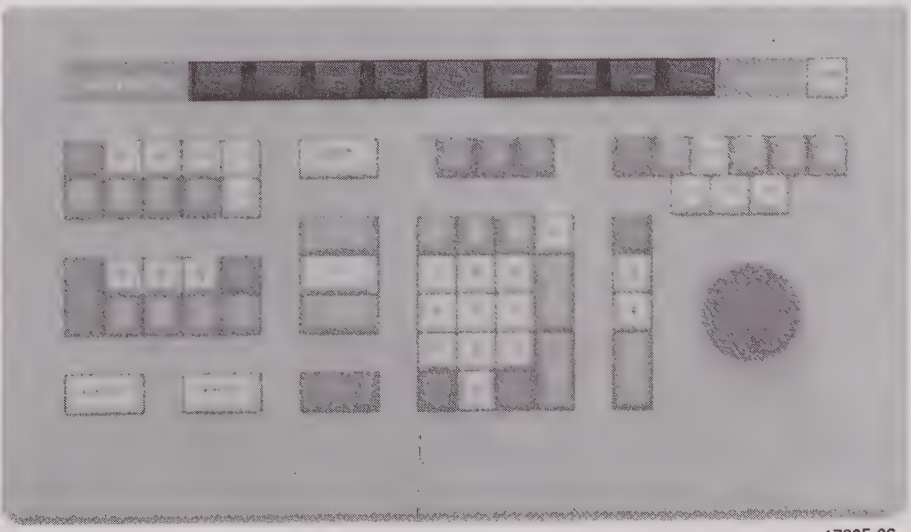
Figure 2-1. Keyboard Keys

2-5 Soft Keys

Soft keys are the eight keys at the top of the keyboard *without* labels (see Figure 2-2). Their labels appear on the menu monitor in the eight boxes at the bottom of the display. The names on the soft key labels will change according to the function or feature you have requested. Pressing a specific keyboard hard key will *always* access the same soft key menu. Pressing the appropriate soft key activates the function currently displayed on screen.

On ACE 25, there are numerous soft key menus, which are easy to learn and locate. Think of the soft key layout as a tree, with a main menu, many individual branches, and many connecting branches. Soft keys are designed to allow quick selections from various menus, while keeping the overall keyboard simple and uncluttered.

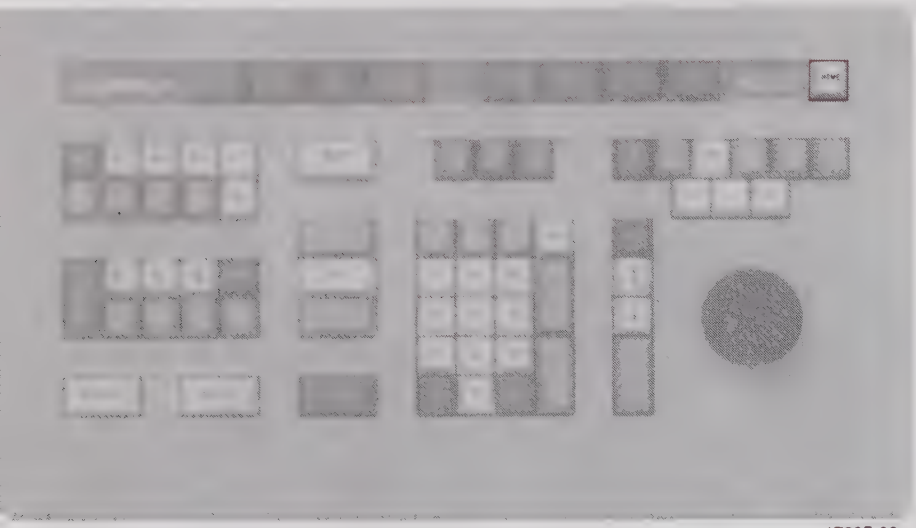


17605-06

Figure 2-2. Soft Keys

2-6 HOME Hard Key

Pressing the HOME hard key *always* returns the screen to the Edit Construction display and the soft keys to the Edit Construction System Initializaton Menu 1. As you learn the soft key tree, you will find HOME a constant frame of reference and an easy starting point for learning all branches on the menu tree (see Figure 2-3).



17605-06

Figure 2-3. Home Hard Key

HOME is also an effective "cancel" key. If there is an action or an operation on a menu that you do *not* want to complete, press HOME to cancel. Usually, ACE 25 will give you the cancel option on a soft key, but HOME also functions in a similar manner.

2-7 RETURN Soft Key

On the soft key menus, pressing **RETURN** takes the soft keys to the last menu displayed. An example of a menu with **RETURN** is shown below.

2-8 MORE Soft Key

The soft key **MORE** appears whenever there are more than eight soft key menu choices available. Pressing **MORE** displays the additional soft key choices. An example of a soft key menu with **MORE** is shown below.

2-9 CONFIRM Soft Key

In some situations, soft key functions which have the possibility of erasing or changing some previously stored information must be confirmed. ACE 25 will ask you to confirm that this is in fact your choice. An example of a soft key menu with **CONFIRM** is shown below.

2-10 Rotary Knob

ACE 25's Rotary Knob on the keyboard (see Figure 2-4) is a true "multi-function" device. In addition to basic transport control, it is also used to

- scroll Edit Decision List (EDL),
- move EDL block markers,
- scroll through EDL and System Configuration file lists on disk,
- scroll through system initialization windows,
- adjust audio input levels on the optional internal audio switcher,
- adjust EQ (equalization) parameters on the optional internal audio switcher, and
- control switcher fader arms, in special "manual" modes.

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Figure 2-4. Rotary Knob

To assist you with this multi-function control, the *top line* of the Cathode Ray Tube (CRT) menu, immediately to the right of the ACE 25 title, *always* shows what specific function the rotary knob is controlling (see Figure 2-5).

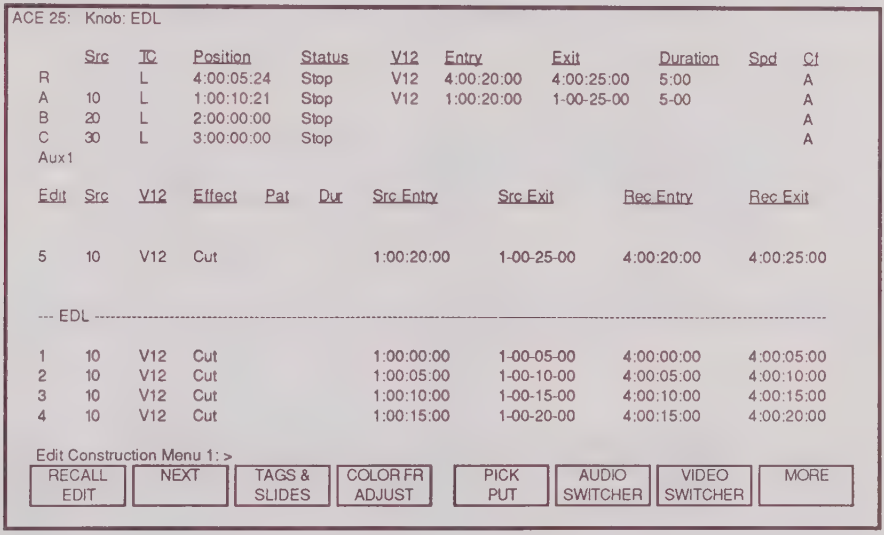

ACE 25: Knob: EDL
Src TC Position Status V12 Entry Exit Duration Spd Cf
R L 4:00:05:24 Stop V12 4:00:20:00 4:00:25:00 5:00 A
A 10 L 1:00:10:21 Stop V12 1:00:20:00 1-00-25-00 5-00 A
B 20 L 2:00:00:00 Stop A
C 30 L 3:00:00:00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
5 10 V12 Cut 1:00:20:00 1-00-25-00 4:00:20:00 4:00:25:00
--- EDL ---
1 10 V12 Cut 1:00:00:00 1-00-05-00 4:00:00:00 4:00:05:00
2 10 V12 Cut 1:00:05:00 1-00-10-00 4:00:05:00 4:00:10:00
3 10 V12 Cut 1:00:10:00 1-00-15-00 4:00:10:00 4:00:15:00
4 10 V12 Cut 1:00:15:00 1-00-20-00 4:00:15:00 4:00:20:00
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

Figure 2-5. CRT Menu Status Message Line 1

There are many status messages for the rotary knob. Four examples are listed below:

ACE 25: **KNOB: EDL**

ACE 25: **KNOB: TRANSPORT JOG**

ACE 25: **KNOB: AUDIO INPUT LEVEL**

ACE 25: **KNOB: FILE LIST**

2-11 DISK MANAGEMENT

ACE 25 comes standard with dual 3-1/2 inch floppy disk drives, labelled drive A and drive B (see Figure 2-6). Paragraphs 2-12 through 2-17 provide details on basic disk management procedures, including:

- Booting up the system
- Formatting a disk
- Copying a disk
- Backing up the Program Disk
- Changing drives
- Listing files

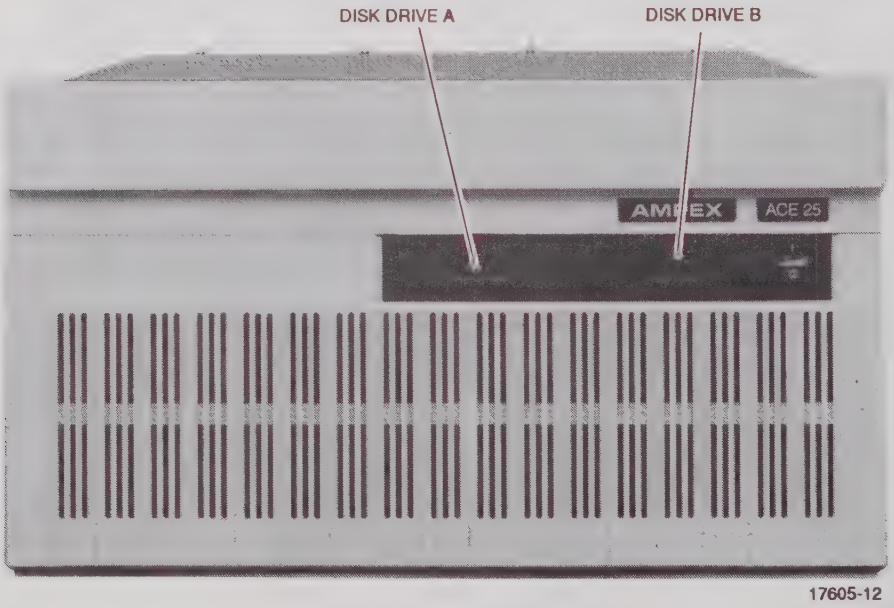


Figure 2-6. Edit Controller Disk Drives

2-12 Booting Up ACE 25

The process of loading the ACE 25 editing software is called "booting up" the system. Boot up ACE 25 as follows:

1. ACE 25 is supplied with one 3-1/2 inch program disk. Insert the program disk into drive A of the Edit Controller chassis. Refer to Figure 2-6.

2. Turn on system power by pressing the "1" side of the "0-1" rocker switch adjacent to the drives. Software will begin to load. Loading is completed when main menu appears on the screen. The system is now ready for all initialization and editing.

If you have any trouble getting ACE 25 to boot up, press the reset switch and try again. See paragraph 2-18, "Reset Switch." If necessary, you may also need to power down and check connections prior to re-booting.

2-13 Formatting Disks

Before you can store any information such as EDLs on a disk, you must first format a disk. This is also called "making a file disk."

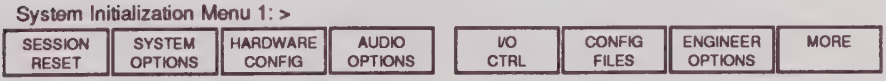
Note

You can format blank disks or disks which *already* contain data. Formatting effectively erases all information. Use caution prior to formatting if the disk contains data, and make sure that you have a copy of the disk or that the data is no longer needed.

With ACE 25 booted up, format disks as follows:

1. Insert a new, blank disk into drive B of the Edit Controller.

2. Press SYS INIT (System Initialization). The following soft key menu is displayed:



3. Press **MORE**. The following soft key menu is displayed:

4. Press **DISK OPTIONS**. The following menu is displayed:

5. Press **FORMAT DISK**.

6. Press **CONFIRM**. The format routine begins. During formatting, the top line of the menu displays which tracks have been formatted, and the message

Format Complete

appears when the format routine is complete.

2-14 Copying Disks

Copying data from disk to disk requires that the destination disk is formatted. To format a disk, use the procedures described in paragraph 2-13.

Note

You can perform a COPY DISK on newly formatted disks or on disks which *already* contain data. If the disk contains data, use caution, as the copy effectively erases all previous information on the destination disk.

To copy data from disk to disk:

1. Insert a pre-formatted disk into drive B of the Edit Controller Unit.

2. Insert the disk that you want copied into drive A.

3. Press SYS INIT, **MORE, DISK OPTIONS.**

4. Press **COPY DISK.**

5. Press **CONFIRM.** This routine copies information from the disk in drive A to the disk in drive B. During copying, the top line of the menu displays which tracks have been copied, and the message

   Disk copy is done

   appears when the copy routine is complete.

2-15 Backing Up the Program Disk

The system program disk supplied with ACE 25 should be copied and stored in a safe place. The back-up copy should then be used for daily editing.

To copy the system disk and make a back-up:

1. Insert a new, blank disk into drive B of the Edit Controller.

2. Press SYS INIT, **MORE, DISK OPTIONS, FORMAT DISK.**

3. Press **CONFIRM** to begin. During formatting, the top line of the menu displays which tracks have been formatted, and the message

   Format Complete

   appears when the format routine is complete.

4. Press **COPY DISK.**

5. Press **CONFIRM.** This routine copies information from the disk in drive A to the disk in drive B. During copying, the top line of the menu displays which tracks have been copied, and the message

   Disk copy is done

   appears when the copy routine is complete.

6. Remove both disks by pressing the eject button on each drive.

7. Store the Master disk in a safe place and clearly label the Copy disk.

8. Re-insert the Copy disk and re-boot to verify that a clean copy was made. The back-up process is now complete. You can now perform preliminary checks of the system or power down to connect options.

2-16 Listing Files

To produce a list of files on the selected disk, press SYS INIT, **MORE**, **DISK OPTIONS** to access the Disk Utility Menu.

Press **LIST FILES**. This feature does not allow any operations on the listed files as that must be done through the options in the File I/O and Configuration Files section. The display mask defaults to

.

on the file window on the CRT.

2-17 Changing Drives

When copying disks, formatting disks, and listing files on disk, ACE 25's default setting performs the selected operation on drive B. By changing drives, you can perform these disk management operations on drive A:

- The default copies from A to B. Change drives to copy from B to A.
- The default setting formats disk B. Change drives to format disk A.
- The default setting lists files on B. Change drives to list files on A.

To change drives:

1. Press SYS INIT, **MORE**, **DISK OPTIONS** to access Disk Utility Menu.
2. Press **CHANGE DRIVE** to switch the current active disk drive.

Note

Use caution when using CHANGE DRIVE in conjunction with FORMAT and COPY. Double check your disks and the current default drive before proceeding to insure that no data is lost by an inadvertent COPY or FORMAT.

2-18 RESET SWITCH

The reset switch is used in the event that the ACE 25 does not boot up properly or fails to respond to keyboard commands. When pressed, Reset restarts the system without powering down. The reset switch is located under the Edit Controller's front panel, to the left of disk drive A.

2-19 SYSTEM INITIALIZATION

System initialization permits you to program and store many different system parameters and setup options, including:

- VTRs and Switchers assigned to system (how many and what kind)
- Operating preferences such as preroll and postroll times
- Engineering parameters such as printer baud rates, GPI pulse widths, and internal audio switcher input levels

All of the initialization functions are software driven. You can store your most common setups on disk for use at system start-up, but ACE 25 also permits you to change *any* parameter at *any* time during editing.

On the keyboard, press SYS INIT to access all System Initialization menus. On the menu monitor, the following soft key menu is displayed:

System Initialization Menu 1: >

SESSION RESET	SYSTEM OPTIONS	HARDWARE CONFIG	AUDIO OPTIONS	I/O CTRL	CONFIG FILES	ENGINEER OPTIONS	MORE

Note that a small window labelled

Program Status

appears at the top of the CRT. This status window will be discussed in paragraph 2-22, "Program Status Window."

2-20 SESSION RESET

The first soft key under System Initialization menu is **SESSION RESET**. Pressing **SESSION RESET** clears the EDL, resets the current edit event to 1, and clears all VTR entry and exit points. This operation effectively resets the editing system for the start of a new edit session. When you press **SESSION RESET** you will be asked to **CONFIRM** this operation.

2-21 SYSTEM OPTIONS

Press SYS INIT, then press **SYSTEM OPTIONS**. This displays the System Options menu on the screen. See Figure 2-7.

The System Options menu is divided into three windows: Program Status, User Options and Edit Options. Each window is also divided into 2 columns: the left column displays the option, the right displays its current setting.

Notice the label

ACE 25: Knob: System Options

that appears on the menu's first line. Use the knob to scroll to the option that you want to change. Only one option is highlighted at a time. Moving the knob clockwise or counter-clockwise moves the highlight to a new option, and the soft key menus change accordingly.

Note

You can adjust CRT's brightness and contrast so that the scrolling "highlight" is easily viewed on all ACE 25 menus. On ACE 25, if a number, word, or line is bright, it is active, and can be changed or modified. See paragraph 4-10, "Bright and Dim."

During a given edit session you can select and change any of these system options at any time using the soft keys, the comments keyboard, or the soft keys in combination with the keyboard's keypad. The changes will immediately take effect, and will be held in RAM for the duration of the session. However, they will not be *permanently* saved unless you store them in a Configuration File. See paragraph 2-80, "Configuration Files."

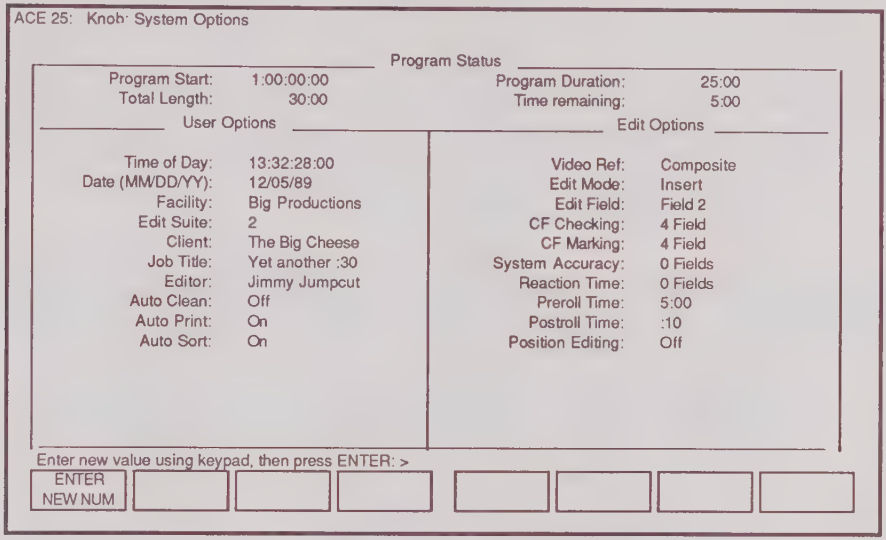


Figure 2-7. System Options Menu

2-22 Program Status Window

The Program Status window, located at the top of the System Options menu, allows you to keep track of the running time of any program on which you are working. If you enter a Program (record) Start time, ACE 25 displays the Program Duration. If you enter Total Program Length, ACE 25 calculates the Time Remaining in the show. Edits must be present in the EDL for this feature to work.

You can only enter Program Start times and Program Length times from the *full* System Options menu. But you can view just the Program Status window easily at any time during editing.

To view just the Program Status window, press SYS INIT. To clear the Program Status window, press HOME.

Note

In the following System Option procedures, move the rotary knob to scroll the highlight.

2-23 Program Start

Press SYS INIT and **SYSTEM OPTIONS** to call up the System Options menu. Enter a program start time as follows:

1. Scroll the highlight to Program Start line in the Program Status window, to display the following menu:

2. On the keypad, enter the timecode when the program begins on the record VTR, i.e., first fadeup of program material, excluding Bars, Tone, and Slate.

Note

The field for Program Duration cannot be highlighted: it is calculated automatically by ACE 25. Program Duration is undefined when Program Start is undefined, EDL is empty, or there is Drop Frame/Non Drop Frame conflict.

3. Press **ENTER TIME** to accept the number. ACE 25 automatically calculates Program Duration by subtracting the Program Start value from the last out time in the EDL.

Notice that 1:00:00:00 was entered in Figure 2-7 as the Program Start time. Based on edits in the EDL, ACE 25 shows 25 seconds in the Program Duration field, indicating that 25 seconds of your program have been edited already.

2-24 Total Length

On the System Options menu, enter total program length time as follows:

1. Scroll the highlight to Total Length line in the Program Status window, to display the following menu:

2. On the keypad, enter the number for the total program length of your show, excluding Bars, Tone, and Slate.

Note

The field for Time Remaining cannot be highlighted: it is calculated automatically by ACE 25. Time Remaining is undefined when Total Program Length is undefined, EDL is empty, or there is Drop Frame/Non Drop Frame conflict.

3. Press **ENTER TIME** to accept. ACE 25 automatically calculates Time Remaining in the show by subtracting Program Duration from Total Program Length.

Notice that 30:00 was entered in Figure 2-7 as the total program length of the 30 second commercial being edited. ACE 25 shows 5 seconds in the Time Remaining field, indicating that 5 seconds are remaining to be completed.

2-25 User Options

Record keeping options are selected in this initialization area, such as naming the edit suite, listing the Editor's name, and entering the time of day. EDL presets can also be determined here, such as automatic clean tails, automatic print, and automatic sort.

2-26 Time of Day

The Time of Day function allows you to set the time of day on ACE 25's internal clock. The time is then used with all File I/O operations to record and display the time that a file was written to the disk.

On the System Options menu, set time of day as follows:

1. Scroll highlight to the Time of Day line in the User Options window, to display the following menu:

2. On the keypad, enter the number for the time of day in hours, minutes, seconds and frames.

3. Press **ENTER TIME** to accept the new time. The clock immediately starts incrementing from that time. Note that the clock is a 24 hour display, with noon at 12:00:00:00 and 1 P.M. at 13:00:00:00.

2-27 Date

The Date function allows you to set the date on ACE 25's internal calendar. The date is then used with all File I/O operations to record and display the date that a file was written to the disk.

On the System Options menu, set date as follows:

1. Scroll highlight to the Date (MM/DD/YY) line in the User Options window, to display the following menu:

2. Enter a value on the keypad.

3. Press **ENTER MONTH**, **ENTER DATE**, or **ENTER YEAR** to accept the new month, date, or year accordingly. The new date will be displayed on the screen.

2-28 Facility, Edit Suite, Client, Job Title, Editor

The Facility, Edit Suite, Client, Job Title, and Editor fields, in conjunction with the comments keyboard option, permit entry of alphanumeric information specific to the edit session. These field names are stored with all other System Options in the configuration files.

On the System Options menu, enter User Option field names as follows:

Note

Ensure that the comments keyboard is connected to the rear of ACE 25's keyboard.

1. Scroll highlight to desired field (Facility, Edit Suite, Client, etc.) in the User Options Window, to display the following menu:

2. On the comments keyboard, type in the desired field names; up to 20 letters and/or numbers (alphanumerics) can be entered on each line.
3. After entering data on a line, press **ENTER NEW NAME**. If an error is made, pressing **RESTORE OLD NAME** clears the newly entered data and restores the old data.
4. Press **CLEAR NAME** to clear the field of all data.

Note

Following keys are active for editing on the comments keyboard: BACKSPACE, Arrow left, Arrow right, INS, and DEL.

CAUTION

ONLY COMMENTS KEYBOARD ORDERED THROUGH AMPEX, AND IBM AT OR IBM AT-COMPATIBLE KEYBOARDS FUNCTION WITH ACE 25. USING *ANY* OTHER ASCII COMMENTS KEYBOARD MAY CRASH THE SYSTEM.

2-29 Auto Clean (Tails)

The Auto Clean function automatically eliminates edit overlaps in the EDL. If your habit is to edit long and cut back with the following edit, you may want to enable this function.

On the System Options menu, enable or disable Auto Clean as follows:

1. Scroll highlight to the Auto Clean line in the User Options window, to display the following menu:

2. Press **ON** to enable Auto Clean, and automatically eliminate overlaps in the EDL. Press **OFF** to disable Auto Clean. Overlaps will be left as is in the EDL.

Figure 2-8 shows a graphic timeline representation of edits with Dirty Tails. In the example, Edit 1 begins at 1:00 and ends at 3:00. In Edit 2, the editor "cuts back" into previously recorded material, and begins the edit at 2:45. This leaves a "dirty tail," because when the edit is performed, 15 seconds at the end of Edit 1 is replaced, or "over-recorded" by the beginning of Edit 2. Edit 3 has a similar dirty tail.

With Auto Clean **OFF**, dirty tails will be left in the EDL. A simplified edit decision list with dirty tails looks like this:

Edit #	V12	Effect	Record Entry	Record Exit
1	V12	Cut	1:00	3:00
2	V12	Cut	2:45	4:15
3	V12	Cut	4:00	5:30

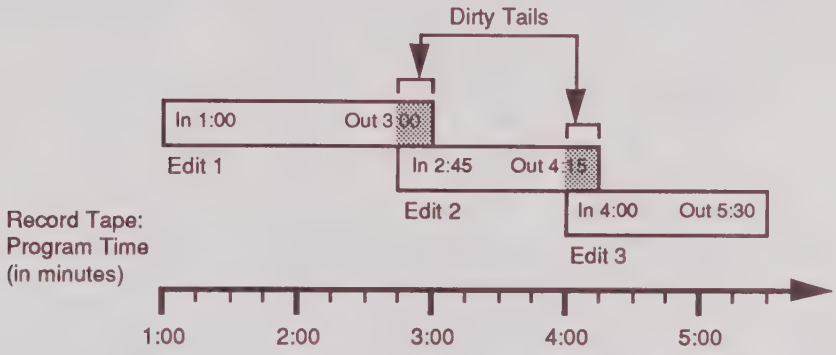


Figure 2-8. Dirty Tails

Figure 2-9 shows a graphic timeline representation of edits with Clean Tails. The figure uses the same three edits as above, but demonstrates the result with Auto Clean ON. When Edit 2 is performed, ACE 25 recognizes the 15 second "dirty tail" in Edit 1, and automatically changes the out point of Edit 1 by the exact amount of the over-record. This puts a "clean tail" in the EDL. When Edit 3 is performed and entered into the list, ACE 25 performs the same auto clean function to the out point of Edit 2.

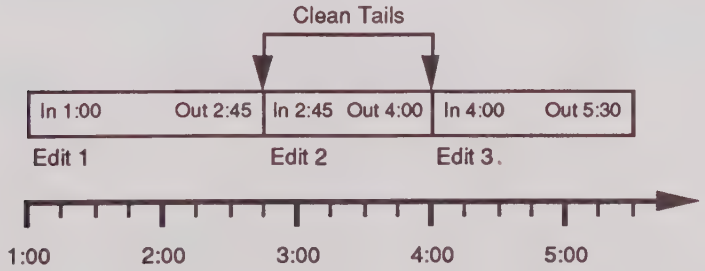


Figure 2-9. Clean Tails

With Auto Clean ON, dirty tails will be removed from the EDL. A simplified edit decision list looks like this:

Edit #	V12	Effect	Record Entry	Record Exit
1	V12	Cut	1:00	2:45
2	V12	Cut	2:45	4:00
3	V12	Cut	4:00	5:30

The Auto Clean function is also very sophisticated in that it automatically splits the exit points in previous edits to keep the EDL clean.

Figure 2-10 shows a graphic representation of a split edit which leaves a dirty tail. In the example, Edit 1 begins at 1:00 and ends at 3:30. In Edit 2, the editor splits the edit, and "cuts back" audio into Edit 1, beginning at 3:00. This leaves a "dirty tail" of audio in Edit 1. Note that video is a clean tail.

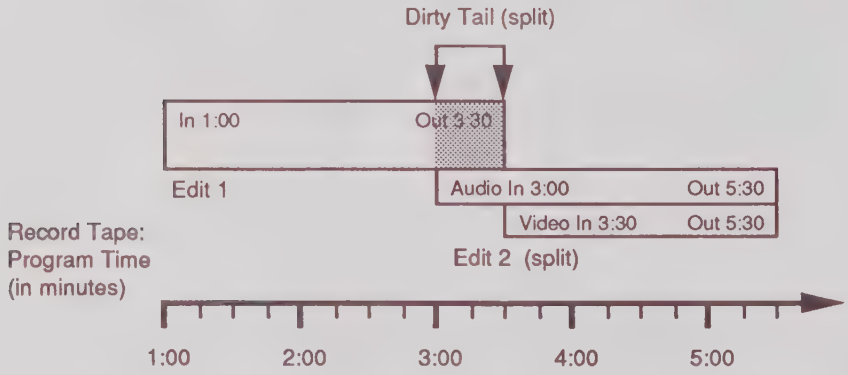


Figure 2-10. Dirty Tails (Split)

With Auto Clean **OFF**, the dirty tail is left in the EDL. A simplified edit decision list looks like this:

Edit #	V12	Effect	Record Entry	Record Exit
1	V12	Cut	1:00	3:30
2	_12	Cut	3:00	5:30
2	V__	Cut	3:30	5:30

Figure 2-11 shows a graphic representation of split edits with Clean Tails. The figure uses the same two edits as in Figure 2-10, but demonstrates the result with Auto Clean **ON**. When Edit 2 is performed, ACE 25 recognizes the 30 second "dirty audio tail" in Edit 1, and automatically splits the audio exit of Edit 1. Edit 1 now has two correct timelines.

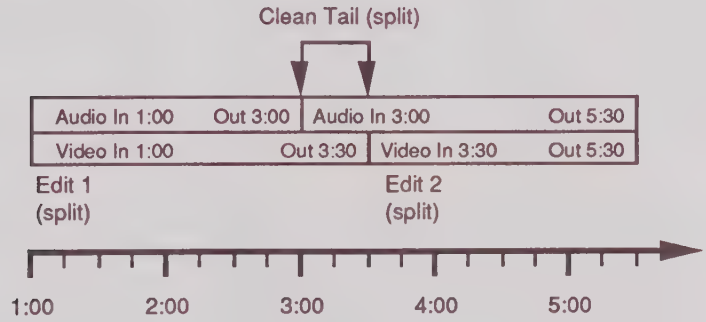


Figure 2-11. Clean Tails (split)

With Auto Clean **ON**, dirty split tails are removed from the EDL. Note in the simplified edit decision list below that Edit 1 is split into an audio cut line and a video cut line:

Edit #	V12	Effect	Record Entry	Record Exit
1	V__	Cut	1:00	3:30
1	_12	Cut	1:00	3:00
2	_12	Cut	3:00	5:30
2	V__	Cut	3:30	5:30

While performing split edits with Auto Clean **ON**, be aware that ACE 25 splits the exit point of a previous edit to keep the EDL clean and eliminate split overlaps. For more information on split edits, see paragraph 3-16, "Split Edits."

2-30 Auto Print

Use Auto Print to print each edit after completion. On the Systems Option menu, enable or disable Auto Print as follows:

1. Scroll highlight to the Auto Print line in the User Options window, to display the following menu:

2. Press **ON** to enable and **OFF** to disable Auto Print. When Auto Print is **ON** and the printer is ready, each new edit is printed after it is performed and entered into the EDL. Each edit is also printed if entered into the EDL using **NEXT**.

Note

With Auto Print ON, other functions that affect EDL, such as ripple and clean tail, will not print out the list or any changed edits.

2-31 Auto Sort

Use the Auto Sort feature to automatically place edits in the EDL that are sorted according to their record in-times. When disabled, edits are placed in EDL immediately after the highlighted line, regardless of record in-times.

On the Systems Option menu, enable or disable Auto Sort as follows:

1. Scroll highlight to the Auto Sort line in the User Options window, to display the following menu:

2. Press **ON** to place edits in the EDL which are sorted according to record in-time, in ascending order. Press **OFF** to place unsorted edits into the EDL in the order in which they were performed.

In the simplified EDL example below, Auto Sort is **OFF**. With Edit 4, the Editor decided to rewind the record VTR and perform a video-only cut starting at 1:50 on the recorder. This edit enters the EDL in numerical sequence (Edit #), not according to record entry. Consequently, the EDL is unsorted.

Edit #	V12	Effect	Record Entry	Record Exit
1	V12	Cut	1:00	2:00
2	V12	Cut	2:00	3:20
3	V12	Cut	3:20	4:40
4	V	Cut	1:50	2:00

In the EDL example below, Auto Sort is ON. This time, when Edit 4 is performed and entered in the list, the edit is sorted according to Record Entry.

Edit #	V12	Effect	Record Entry	Record Exit
1	V12	Cut	1:00	2:00
4	V	Cut	1:50	2:00
2	V12	Cut	2:00	3:20
3	V12	Cut	3:20	4:40

The Auto Sort function makes it easier to "read" the EDL and to spot any changes to the master tape, in the exact order in which they occur. If Auto Sort is **OFF**, you also have the option of manually resorting during or at the end of any edit session. See paragraph 6-12, "Sort."

2-32 Edit Options

The following system initialization options affect the precision with which edits are completed, in such areas as reference, edit field selection, color framing, and system accuracy. These Edit Options also allow you to fine tune the system to best suit your own method of operation.

2-33 Video Reference

Use the Video Reference function to select composite or component video reference in accordance with your system's configuration.

On the System Options menu, set Video Reference as follows:

1. Scroll highlight to the Video Ref line in the Edit Options window, to display the following menu:

2. Press **COMPOSITE VIDEO** if your editing system's reference is Composite. Press **COMPONENT VIDEO** if your editing system's reference is Component.

2-34 Edit Mode

Use the Edit Mode function to select either insert or assemble editing for the current session or for the current edit.

On the System Options menu, select the Edit Mode as follows:

1. Scroll highlight to the Edit Mode line in the Edit Options window, to display the following menu:

2. Select **INSERT** or **ASSEMBLE** editing as required.

The default condition is **INSERT** which is the preferred method for clean editing. With each new edit, insert retains control track and timecode recorded on the master tape, and only records the selected audio and video channels. Insert allows complete flexibility with audio and video "inserts," specifically, audio and video "only" edits (see Figure 2-12). Insert requires a pre-blacked and timecoded tape. See paragraph 2-90, "Preparing Tapes."

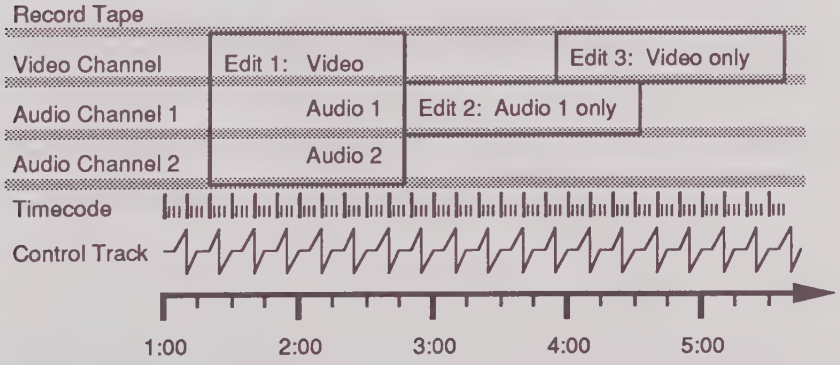


Figure 2-12. Insert Editing

Assemble editing, on the other hand, lays down new control track, timecode (if the VTR has an onboard timecode generator), and all available video and audio channels with each new edit (see Figure 2-13). Assemble editing does not have the flexibility that insert editing has, but it is often necessary if a pre-blacked and timecoded tape is not available. If **ASSEMBLE** is selected, a 10-15 second stripe of timecode should be laid down at the beginning of the record tape, to give the VTR's timecode generator valid code with which to "jam" (synchronize).

Note

ACE 25 does not have a "jam" feature. Timecode generator in VTR will jam if it is set up that way on the VTR itself.

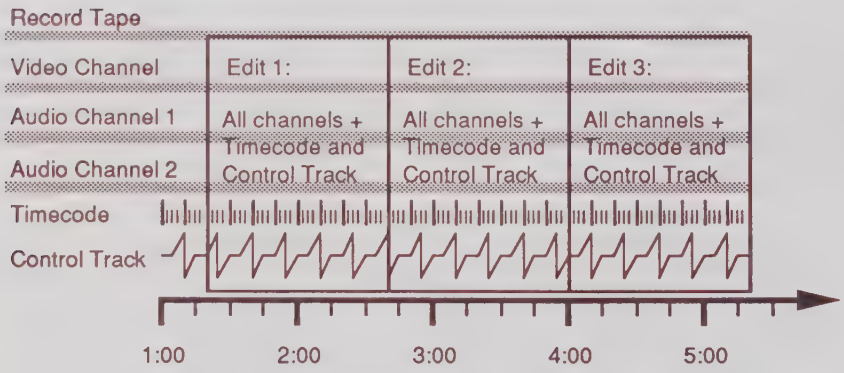


Figure 2-13. Assemble Editing

2-35 Edit Field

Use the Edit Field function to choose the video field on which the edit occurs on your record VTR.

On the System Options menu, set Edit Field as follows:

1. Scroll highlight to the Edit Mode line in the Edit Options window, to display the following menu:

2. Select **FIELD 1** or **FIELD 2** as required. If you do not choose a setting, the default condition (FIELD 2) will be activated. Remember that not all VTRs permit this edit field choice, so you will need to check that the framing servos in your VTRs allow for choosing the field.

Note

Ensure that setting on record VTR matches the setting on ACE 25. Selecting 1F/2F on Betacam VTRs is not recommended under any situations.

2-36 Color Frame Checking

Use the Color Frame (CF) Checking feature to choose the type of Color Frame Checking that ACE 25 will perform.

On the System Options menu, select type of Color Frame Checking as follows:

1. Scroll the highlight to the CF Checking line in the Edit Options window.
   - In NTSC, the following soft key menu appears:

- In PAL, the following soft key menu appears:

2. In NTSC, select either 2-field or 4-field color frame checking.

   - Selecting 2-field turns system color framing OFF. This setting allows ACE 25 to edit any frame and in component format, and to perform non-color framed edits. At this setting no CF error message is displayed.
   - Selecting 4-field turns system color framing ON. This setting allows ACE 25 to edit any frame on Record VTR, but does not allow source VTRs to be non-color framed. If a non-color framed edit occurs, the error message

     Edit Not Color-Framed

     is displayed.

     To color frame adjust the edit, press HOME; then, press **COLOR FR ADJUST** to advance source VTR forward by 1 frame to next correct color frame.

   In PAL, select either 2-field, 4-field, or 8-field color frame checking.

   - Selecting 2-field turns system color framing OFF. This setting allows ACE 25 to edit any frame and in component format, and to perform non-color framed PAL edits. At this setting no CF error message is displayed.
   - Selecting 4-field turns system color framing ON. ACE 25 checks for PAL pairs. If non-color framed edit occurs, the error message

     Edit Not PAL paired

     is displayed.

     To color frame edit, press HOME; then, press **COLOR FR ADJUST** to advance source VTR forward to next correct PAL pair.

- Selecting 8-field turns system color framing ON. ACE 25 checks for full PAL color frame (8-field). If non-color framed edit occurs, the message

  Edit Not Color-Framed

  is displayed.

  To color frame edit, press HOME; then, press **COLOR FR ADJUST** to advance source VTR forward to next correct PAL color frame.

Proper use of this color frame checking feature, in conjunction with proper color frame "learn" procedures, will greatly assist in "shift" free edits. See paragraph 2-53, "Color Framing," and paragraph 2-60, "Color Frame Adjust."

2-37 Color Frame Marking

Use the Color Frame Marking feature to choose the type of Color Frame Marking that ACE 25 will perform.

On the System Options menu, select type of Color Frame Marking as follows:

1. Scroll the highlight to the CF Marking line in the Edit Options window.
   - In NTSC, the following soft key menu appears:

   - In PAL, the following soft key menu appears:

2. In NTSC, select either 2-field or 4-field color frame marking.
   - Selecting 2-field causes ACE 25 to mark VTR entry and exit points on any frame, regardless of color framing.

- Selecting 4-field causes ACE 25 to mark entry and exit points only on correct color frames, based on color frame learn. If a VTR is phase A, and you mark an entry on a timecode ending in :01, ACE auto-adjusts the mark forward to :02. Use this Edit Option to avoid error messages and non-color framed edits.

In PAL, select either 2-field, 4-field, or 8-field color frame marking.

- Selecting 2-field causes ACE 25 to mark VTR entry and exit points on any PAL frame, regardless of color framing.
- Selecting 4-field causes ACE 25 to mark points only on PAL pairs, based on CF learn. If you mark on a non-PAL paired timecode, ACE adjusts the mark forward to the next correct PAL pair.
- Selecting 8-field causes ACE 25 to mark only on correct PAL color-frames, based on CF learn. If you mark on non-PAL color-framed timecode, ACE adjusts the mark forward to the next correct PAL color frame. Use this Option to avoid non-color framed edits.

2-38 System Accuracy

On the System Options menu, choose System Accuracy as follows:

1. Scroll highlight to System Accuracy line in Edit Options window to display the following menu:

2. Using the keypad, enter your selection in fields for system accuracy.
3. Press **ENTER NEW NUMBER** to load the selection into memory.

Note

You may want to increase ACE 25's edit tolerance when working with tapes that have questionable timecode or in situations such as news, when speed is more important than strict accuracy.

Entering a value of 1 opens up a one field "window" on either side of the edit point, i.e., 1 field for source VTR and 1 field for record, or a total of a 2 field (1 frame) window. Similarly, a value of 2 opens up a 4 field (2 frame) window. The wider the window, the easier it is for ACE 25 to synchronize VTRs.

Entering a value of 0 is critical for match-framed edits, which are the basis of A/B roll effects. If you choose 0 field accuracy, the system will abort any edit that ACE 25 cannot synchronize to the precise frames requested. If the edit aborts, ACE 25 is programmed to try again 10 times to complete the edit.

Note

Unless difficulty with system or timecode on tape exists, operator is urged to leave system accuracy set at 0.

2-39 Reaction Time

On the System Options menu, select preferred Reaction Time as follows:

1. Scroll highlight to Reaction Time line in Edit Options window to display the following menu:

2. Using the keypad, enter desired reaction time correction, in fields.

3. Press **ENTER NEW NUMBER** to load selection into memory.

The reaction time value is subtracted from any marked entry or exit point only when tape is pulling. This feature accounts for the small difference between the time your eye "sees" the desired edit point on the monitor, and when your finger reacts with a "mark." If you have not worked with this function before, you may not find it necessary to change the default condition of 0 fields.

2-40 Preroll

Preroll is the amount of time that the ACE 25 computer allows for each VTR to synchronize prior to the edit point.

On the System Options menu, choose preferred system Preroll Time as follows:

1. Scroll highlight to Preroll Time line in the Edit Options window to display the following menu:

2. Using the keypad, select a preroll time in seconds and frames for all VTRs on line.

3. Press **PREROLL** to load the selection into memory.

The default setting is 5 seconds. Longer prerolls may be needed to synchronize multiple VTRs of varying formats under certain conditions. Some one-inch and Betacam SP VTRs are capable of synchronization in less than 5 seconds.

2-41 Postroll

Postroll is the amount of time that the system will roll all VTRs after completion of an edit or preview.

On the System Options menu, choose preferred system Postroll Time as follows:

1. Scroll highlight to Postroll Time line in the Edit Options window to display the following menu:

2. Use the keypad to select VTR postroll time in seconds and frames.

3. Press **POSTROLL** to load the selection into memory.

The default selection is two seconds. Sometimes longer postrolls are desired to better view the edit in context.

2-42 Position Editing

On the System Options menu, select Position Editing as follows:

1. Scroll highlight to Position Editing line in the Edit Options window to display following menu :

2. Select Position Editing **ON** or **OFF** to enable or disable Position Editing.
   - With Position Editing **ON** you:
     - Can edit simply by parking VTRs visually at desired edit points, as ACE 25 "soft marks" edit points for you.
     - Do not have to "hard load" entry and exit points through keypad or mark-in keys.
   - With Position Editing **OFF**, edits require "hard-loaded" edit points.

If you are new to computer editing, Position Editing is an excellent way to get started. Simply set up your edit (for example, press **CUT, A**), then park the Record VTR at the desired entry point, park the Source VTR at the desired entry point, and press **PREVIEW** or **PERFORM** (**PREVIEW** and **EDIT** simultaneously).

For a step-by-step guide to position editing, see paragraph 4-15, "Edit Point Marking—Position Editing."

2-43 HARDWARE CONFIGURATION

Use the Hardware Configuration menu (Figure 2-14) to configure ACE 25 system hardware.

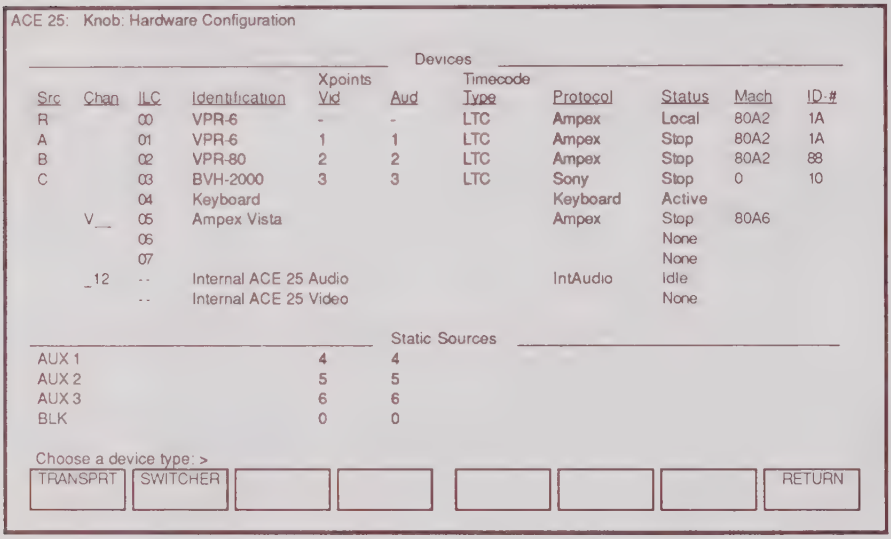

ACE 25: Knob: Hardware Configuration
Devices
Src Chan ILC Identification Xpoints Vid Xpoints Aud Timecode Type Protocol Status Mach ID-#
R 00 VPR-6 - - LTC Ampex Local 80A2 1A
A 01 VPR-6 1 1 LTC Ampex Stop 80A2 1A
B 02 VPR-80 2 2 LTC Ampex Stop 80A2 88
C 03 BVH-2000 3 3 LTC Sony Stop 0 10
04 Keyboard Keyboard Active
V__ 05 Ampex Vista Ampex Stop 80A6
06 None
07 None
_12 -- Internal ACE 25 Audio IntAudio Idle
-- Internal ACE 25 Video None
Static Sources
AUX 1 4 4
AUX 2 5 5
AUX 3 6 6
BLK 0 0
Choose a device type: >
TRANSPRT
SWITCHER
RETURN

Figure 2-14. Hardware Configuration Menu

There are two ways in which you can access Hardware Configuration menu:

- From any menu or display screen, press SYS INIT, **HARDWARE CONFIG.**
- From System Options menu and any of its sub-menus, press RETURN to return to System Initialization Menu 1, then press **HARDWARE CONFIG.**

The Hardware Configuration menu allows you to configure and assign the following items:

- Types of VTRs on system (Ampex or Sony protocol)
- Types of Video Switchers on system
- Types of Audio Switchers on system
- VTR letters (R, A, B, C)
- VTR timecode type (TT, LTC, VITC)
- VTR audio and video crosspoints
- Auxiliary audio and video crosspoints
- "Spare" VTR on system

The Hardware Configuration menu is divided into two sections: Devices (VTRs, Switchers, and Internal Switchers) and Static Sources (Auxiliary Crosspoints). Both sections are divided into columns.

In the Devices section, columns are defined as follows from left to right:

- **Src**: Displays current letter assigned to specific VTR on Intelligent Line Controller (ILC) channel. You can assign any letter to any VTR.
- **Chan**: Displays video and/or audio channels assigned to switcher on ILC channel. If assigned switcher is video only, column shows V__. If switcher is audio only, display shows _12. If switcher is audio/video, display shows V12.
- **ILC**: Lists ACE 25's eight ILC channels in ascending order, from top to bottom, corresponding to the eight nine-pin "D" device connectors on ACE 25's rear panel. Column also shows "–" for two internal switcher ports that cannot be accessed by operator for any device connection other than internal switchers.

  ACE 25's eight ILC ports are numbered and labeled as follows for easy system connection:

ILC #	Rear Chassis Panel Label
00	Record VTR
01	Source A
02	Source B
03	Source C
04	Keyboard
05	Switcher 1
06	Switcher 2
07	Spare

  With the exception of the keyboard, which must be connected to ILC channel 4, any device can be connected to any ILC port, including both transports and switchers.

- **Identification**: Displays software "ID" which is returned by each device. VTR or switcher, when assigned, identifies itself to user in this column.
- **Vid/Aud**: Displays audio and video crosspoints assigned for specific VTR. ACE permits full flexibility, allowing switcher and VTR crosspoints to vary from session to session.
- **Timecode**: Displays type of timecode assigned VTR is reading: TT (Tape Timer), LTC (Longitudinal Timecode), or VITC (Vertical Interval Timecode).
- **Protocol**: Displays type of communications protocol device is using: Ampex, Sony, Internal, or Keyboard.
- **Status**: Displays device's current status (Stop, Local, Rewind, etc.), showing identical information as Status column on main menu.
- **Mach, ID#**: Display physical machine identifications, usually programmed by dip-switch setting on VTR or Switcher itself.

On the Hardware Configuration menu, use the rotary knob to scroll to the ILC channel that you want to assign or change. The selected line highlights, and the appropriate soft key menu appears. As with the System Options menu, use the soft keys, or the soft keys in combination with the keyboard's keypad to enter your selections.

You can make changes to hardware options at any time during an edit session. The changes immediately take effect, and are held in RAM for the duration of the session. However, they are not *permanently* saved unless you store them in a Configuration File. See paragraph 2-80, "Configuration Files."

2-44 ASSIGNING DEVICES

When you first boot up ACE 25, all ILC channels will be unassigned. In general, when you first configure the entire system or re-configure a specific ILC, the following items are assigned to each channel as necessary:

- Transport or switcher
- Transport protocol
- Transport letter
- Transport audio and video crosspoints
- Transport timecode type
- Internal switcher
- Static sources (auxiliary crosspoints)

Assign a device to an ILC channel as follows:

- Scroll highlight to desired channel on Hardware Configuration menu, to display following Device Type soft key menu:

- Press **TRANSPORT** or **SWITCHER** to assign device type to highlighted channel.

Note

Keyboard channel cannot be highlighted or changed.

Remember that all ACE 25 switcher and transport drivers (interfaces) are located on the ACE 25 program disk. No additional software or hardware is required. Always check with Ampex to make sure that an interface is currently available for your VTR or switcher.

2-45 Assigning Transports

Assign transports from the Device Type menu as follows:

1. Press **TRANSPORT** to display the following Transport Configuration menu, which permits assignment of various devices:

- If Ampex VTR is physically connected to ILC channel, press **AMPEX PROTOCOL**. Use Ampex protocol to assign VPR-3, VPR-6, VPR-80, and VPR-2s and VPR-2Bs with appropriate Ampex MIF (serial-parallel machine interfaces).
- If ACE-MIF for control of Sony VO-5800/5850 is physically connected to ILC channel, press **AMPEX PROTOCOL**.
- If Sony VTR is physically connected to ILC channel, press **SONY PROTOCOL**.
- If Panasonic MII is physically connected to ILC channel, press **SONY PROTOCOL**.
- If JVC CR-850 is physically connected to ILC channel, press **SONY PROTOCOL**.
- If transport is to be removed from ILC, press **NO TRANSPORT** to clear ILC. When this ILC is next highlighted, the Device Selection soft key menu will appear.

Note

All 3/4-inch and 1/2-inch transport standards, Betacam SP, and Ampex Betacam use Sony protocol.

Once transport protocol is assigned on ACE 25, protocol is downloaded automatically by the computer into the selected ILC channel.

2. Ensure that power is on in the selected VTR, and that the VTR is in "remote." The "Identification" column on the menu returns the ID of the VTR, and the "status" column changes to "Stop" or "Unthread."

WARNING

DO NOT ASSIGN TRANSPORT PROTOCOL TO ILC CHANNEL IF PHYSICAL VTR IS NOT CONNECTED DURING EDIT SESSION, OR IS NOT POWERED ON. ASSIGNING TRANSPORT PROTOCOL TO ILC CHANNEL UNDER SUCH CONDITIONS CAUSES ACE 25 TO CONSTANTLY TRY TO "FIND" THE TRANSPORT AND DISPLAY COMMUNICATION ERROR MESSAGES.

2-46 Assigning Transport Letters

Assign transport letters on the Transport Configuration menu as follows:

1. Press **TRANSPORT LETTER** to display the following soft key menu, which permits assignment of transport letters to machines:

2. Highlight an ILC channel, and press **R**, **A**, **B**, or **C** to assign letter to channel. Any VTR can have any letter assigned to it. Once a transport letter is assigned, the soft key menu returns to the Transport Configuration selections, and the selected letter appears on the menu in the "Src" column.

3. Press **NONE** to remove a transport's letter, and thus de-assign it temporarily from ACE 25.

In conjunction with the configuration files, you can easily re-assign the record machine or any source machine during an edit session. See paragraph 2-80, "Configuration Files."

Note

If letter assigned is already in use, it will be automatically de-assigned from its previous transport assignment.

Assignment of multiple record machines is not permitted.

2-47 Assigning Transport Crosspoints

Assign transport crosspoints on the Transport Configuration menu as follows:

1. Press **XPOINTS** to display the following soft key menu:

2. Using the keypad, enter the number of the physical switcher video crosspoint (on either the internal or external assigned video switcher) to which the VTR is connected.

3. Press **VIDEO XPOINT**. Once a crosspoint is assigned, the selected video crosspoint appears on the Hardware Configuration menu, and the soft key menu returns to Transport Configuration menu.

4. Again, using the keypad, enter the number of the physical switcher audio crosspoint (on either the internal or external assigned audio switcher) to which the VTR is connected.

5. Press **AUDIO XPOINT**. Once a crosspoint is assigned, the selected audio crosspoint appears on the Hardware Configuration menu, and the soft key menu returns to Transport Configuration menu.

Note

TONE appears only if internal audio is assigned.

2-48 Assigning Transport Timecode Type

Assign transport timecode type on the Transport Configuration soft key menu as follows:

1. Press **TIMECODE TYPE** to display the soft key menu shown below:

2. Press **LTC**, **VITC**, or **TT-1** to select timecode type.
   - **LTC** assigns Longitudinal Timecode as type of timecode to be used by selected VTR.
   - **VITC** assigns Vertical Interval Timecode as type of timecode to be used by selected VTR.
   - **TT-1** assigns Tape Timer 1 (control track pulses) as type of timecode to be used by selected VTR.

Once timecode type is assigned, selected timecode type appears on the Hardware Configuration menu, and the display returns to the Transport Configuration menu.

Note

If VTR has a built-in Tape Timer 2 (TT-2), this tape timer cannot be accessed from ACE 25.

2-49 Assigning External Switchers

Assign external switchers from the Hardware Configuration menu as follows:

1. Scroll the highlight to ILC channel 5 (External switcher port 1) or ILC channel 6 (External switcher port 2).

   If no device is assigned, the Device Type menu is displayed:

If a transport is already assigned, the Transport Configuration menu is displayed. Press **NO TRANSPORT** on the Transport Configuration menu, to change the ILC channel to a switcher and return to the Device Type menu.

2. With the desired ILC channel highlighted, on the Device Type menu press **SWITCHER**. The following menu is displayed:

- Press **AMPEX PENGUIN** to assign Penguin switcher to ILC. Penguin switcher can be Audio/Video, Video only, or Audio only.
- Press **AMPEX VISTA** to assign Ampex Vista 10 or Vista 18 video switcher to selected ILC channel.
- Press **GVG 100** to assign Grass Valley 100 video switcher to selected ILC channel.
- Press **AMX 100** to assign Grass Valley AMX-100 audio switcher to selected ILC channel.
- Press **AMX 170** to assign Grass Valley AMX-170 audio switcher to selected ILC channel.
- Press **NO SWITCHER** to remove any switcher from selected ILC channel, or in preparation for re-assigning another switcher.

Note

In each case, if assigned switcher is physically connected and turned on, Hardware Configuration menu reports switcher name and type (Video, Audio, Audio/Video) in Identification column, and "Stop" or "Idle" in Status column.

ACE 25 permits maximum of two switchers on line at any time, in any combination of internal and external switchers.

WARNING

DO NOT ASSIGN SWITCHER PROTOCOL TO ILC CHANNEL IF PHYSICAL SWITCHER IS NOT CONNECTED DURING EDIT SESSION, OR IS NOT POWERED ON. ASSIGNING SWITCHER PROTOCOL TO ILC CHANNEL UNDER SUCH CONDITIONS CAUSES ACE 25 TO CONSTANTLY TRY TO "FIND" SWITCHER, AND DISPLAY COMMUNICATION ERROR MESSAGES.

2-50 Assigning Internal Switchers

Assign internal switchers from the Hardware Configuration menu as follows:

1. Scroll the highlight to either the Internal ACE 25 Audio switcher line, or the Internal ACE 25 Video switcher line, as required. The following soft key menu appears:

2. Select desired internal switcher:
   - Press **INTERNAL AUDIO** to assign ACE 25's internal audio switcher to system.
   - Press **INTERNAL VIDEO** to assign ACE 25 internal video switcher to system, either composite or component format.

Note

When internal switcher is assigned, status column displays "Stop" or "Idle," and channel identification column dynamically reflects type of switcher assigned (Video or Audio).

Internal switchers are assigned to system only if they are properly installed in chassis.

2-51 Assigning Static Sources

Auxiliary sources, such as camera and ADO, are extremely useful in a session. Assign Static Sources (Auxiliary Crosspoints) from the Hardware Configuration menu as follows:

1. Scroll to the Static Sources area in the bottom half of the display.

2. Highlight the source (AUX 1, AUX 2, AUX 3, or BLACK) to which you want to assign a crosspoint. The following menu is displayed:

3. Using the keypad, enter the number of the physical crosspoint (on internal or external video switcher) to which the source is connected.

4. Press **VIDEO XPOINT**. The selected crosspoint appears on screen, and the soft key menu returns to the Transport Configuration selections.

5. Using the keypad, enter the number of the physical crosspoint (on internal or external audio switcher) to which the source is connected.

6. Press **AUDIO XPOINT**. The selected crosspoint appears on screen, and the soft key menu returns to the Transport Configuration selections.

The default crosspoints, as set for the internal switchers are:

- Aux 1: Crosspoint 4
- Aux 2: Crosspoint 5
- Aux 3: Crosspoint 6
- Black: Crosspoint 0

Note

TONE only appears if internal audio is assigned. Pressing TONE assigns audio crosspoint 7 to selected source.

2-52 Assigning the Spare Port

ACE 25 permits control of four VTRs on-line simultaneously. However, a fifth VTR can be connected to the system as a "spare," and only brought on-line as required in place of the current R, A, B, or C VTRs. This effectively provides fast access to an alternate record VTR, or an alternate source VTR.

To assign the spare port:

1. Physically connect a VTR's serial communications line to the "spare" RS-422 port on the rear of the ACE 25 chassis. If the VTR is to be a source VTR, connect its audio and video outputs to the assigned switchers input connectors. If the VTR is to be a spare record, insure that the output of the assigned switcher is connected to the spare record VTRs input.

2. On the Hardware Configuration menu, scroll the highlight to ILC 7. Follow the procedures outlined in paragraphs 2-45 through 2-48 to assign a transport protocol, transport letter, transport crosspoint, and transport timecode type to the Spare VTR.

3. When the transport letter is assigned, the VTR is active, and the letter you assigned is automatically removed from its previous transport assignment. The "spare" VTR is now on-line.

4. At this point it is advisable to "file" the new transport configuration, calling it SPAREA.CFG or SPAREREC.CFG as required. The next time the spare VTR is needed on-line, assigning it is as simple as calling up a file, without tediously assigning each parameter.

See paragraph 2-80, "Configuration Files," for more information about reading and writing configuration files.

2-53 COLOR FRAMING

If you are not familiar with color framing principles, see Section 7, "Reference," and Glossary of Terms.

The color frame options on ACE 25 (Color Frame Marking and Color Frame Checking) and associated error messages (Edit not color framed) are all based on ACE 25's unique ability to Color Frame "Learn." This feature is designed to help you avoid the "shifts" in your match-frame editing.

For Color Frame Learn to operate effectively, the computer must learn the timecode-to-color frame relationship for each mounted reel.

Two important engineering procedures must be followed to ensure proper functioning of Color Frame Learn:

1. Connect house reference video to all VTRs in system, preferably from a distribution amplifier (DA) and *not* looped from machine to machine.

2. Properly adjust ACE 25's Color Field Detector. See Appendix A, paragraph A-28, "Color Field 1 Detector Adjustments," for procedure.

Color Frame Learn works differently depending on whether the VTRs in the system have color framers (paragraph 2-54) or not (paragraph 2-59).

2-54 CF Learn—VTRs with Color Framers

The following paragraphs discuss the Color Frame Learn feature of the ACE 25, using VTRs with color framers (both source and record). Discussion includes:

- New Edit Session
- Reel Changes During Session
- Re-learning Color Frame on Reel
- Storage of Color Frame Phase

2-55 New Edit Session

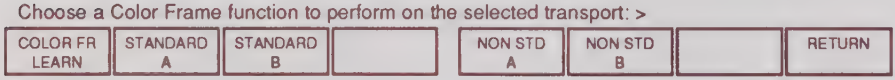
Perform the following Color Frame Learn procedure on each reel, before a new edit session, to enable the computer to learn the timecode-to-color frame relationship for each mounted reel:

1. Press HOME, **MORE**, **TRANSPORT** to access Transport Function menu:

2. Press ALL to enable all transports for an operation to follow. Note that all source VTR letters change to reverse video.

3. Press **COLOR FRAMING** to access the Color Frame Function menu.
   - In NTSC, the following Color Frame Learn menu appears:

   - In PAL, the following Color Frame Learn menu appears:



4. Press **COLOR FR LEARN.** Each VTR will move tape for several seconds then stop at the completion of the process. While tape is moving, ACE 25 turns on each VTR's color framer, compares timecode on tape to house reference, and computes if the VTR is phase A or B in NTSC, and phase SA, SB, NA, or NB in PAL.

2-56 Reel Changes During Session

The method for performing a Color Frame Learn for an individual reel is very simple. Each time a new reel number is assigned to a VTR during the edit session, ACE 25 *automatically* brings up the Color Frame Learn menu.

1. Enter a new reel number on the keypad.
2. Select the desired VTR: **A**, **B** or **C**.
3. Press HOME, **MORE**, **REEL NUMBER**. The Color Frame Learn menu appears.
4. Press **COLOR FR LEARN**, and the computer will perform the Color Frame Learn routine as above.

2-57 Re-learning Color Frame on a Reel

Sometimes it is necessary to repeat the Color Frame Learn procedure on an individual reel if match-frame edits begin to shift. If individual cameras are not phased (as recorded on tape), or if there was a break in timecode, timecode-to-color frame relationship may drift during the length of a source tape. In such cases, repeat the color frame learn procedure manually as follows:

1. Press HOME, **MORE**, **TRANSPORT**, **COLOR FRAMING**, to bring up the Color Frame Choice menu.
2. Press **COLOR FR LEARN** to initiate the color frame learn process. Tape will move on the selected transport, and in a few seconds the color frame learn will be complete.

At system boot up in NTSC, all VTR color frame standards are set to A (Phase A). At the conclusion of the color frame learn procedure, the results are displayed on the main menu in the color frame column. See Figure 2-15.

Similarly, at system boot up in PAL, all VTR color frame standards are set to SA (Phase Standard A). At the conclusion of the color frame learn procedure, the results are displayed on the main menu in the color frame column. ACE 25's computer determines if the "learned" PAL standard is SA (Standard A), SB (Standard B), NA (Non-Standard A), or NB (Non-Standard B), and displays the results in the menu column.

ACE 25: Knob EDL
Src TC Position Status V12 Entry Exit Duration Spd Cf
R L 4:00:05:24 Stop V12 4:00:20:00 4:00:25:00 5:00 A
A 10 L 1:00:10:21 Stop V12 1:00:20:00 1-00-25-00 5-00 A
B 20 L 2:00:00:00 Stop A
C 30 L 3:00:00:00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
5 10 V12 Cut 1:00:20:00 1-00-25-00 4:00:20:00 4:00:25:00
--- EDL ---
1 10 V12 Cut 1:00:00:00 1-00-05-00 4:00:00:00 4:00:05:00
2 10 V12 Cut 1:00:05:00 1-00-10-00 4:00:05:00 4:00:10:00
3 10 V12 Cut 1:00:10:00 1-00-15-00 4:00:10:00 4:00:15:00
4 10 V12 Cut 1:00:15:00 1-00-20-00 4:00:15:00 4:00:20:00
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

Figure 2-15. Main Menu

2-58 Storage of Color Frame Phase

Color frame phase is *not* automatically stored with the edit or with the reel numbers in the EDL, because, depending on the tape and the color frame learn, phase (as displayed on the menu) changes from reel to reel and session to session.

If you know that you will restart an edit session the next day, it is recommended that you keep a record of the phases of each VTR at the end of the current session. And, at the start of the next day's session, reset the Color Frame phase manually for each mounted reel using the Color Frame Choice menu.

An *easy* method for manually storing color frame phase is to enter a comment above edit 1 at the *start* of the session, and above the last edit at the *end* of the daily session. The comment records the results of the color frame learn, and duplicates what the Color Frame column on the menu displays. In this way,

using comments, you can pick up where you left off with correct phases, even if the session continues for several days. Using the comments keyboard, a sample EDL with a comment might appear as in Figure 2-16.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
* RVTR: Master - phase A							
* AVTR: Reel 10 - phase B							
* BVTR: Reel 35 - phase A							
* CVTR: Reel 20 - phase A							
1	10	V12	Cut	10:01:21:04	10-01-26-04	1:00:00:00	1:00:05:00
2	35	_12	Cut	3:05:00	3-10-00	1:00:05:00	1:00:10:00
3	20	V12	Cut	2:07:10:10	2-07-15-10	1:00:10:00	1:00:15:00
4	10	V__	Cut	10:02:15:22	10-02-20-22	1:00:15:00	1:00:20:00

Figure 2-16. Sample EDL with Comments

2-59 CF Learn—VTRs without Color Framers

For a VTR without an on-board color framer, correct identification of color frame-to-timecode phase is experimental. In NTSC, this is done by manually setting the VTR's color frame phase, using the **PHASE A** and **PHASE B** soft keys on the Color Framing Choice Menu.

1. Press **A**, **B**, or **C** to identify the source VTR without a color framer.
2. Press **PHASE A**.
3. Perform several cut edits using the source identified in step 1.
4. Review the edits. If shifts occur at the edit points, select **PHASE B** and repeat the test. Use the color frame standard that produces shift free edits. After the correct standard has been selected, return to the HOME menu.

In PAL there are four options for color-frame phase. For any tape, two options fail to synchronize, one results in shifts and one results in properly framed edits. On the PAL Color Frame Choice Menu, use the **STANDARD A**, **STANDARD B**, **NON-STAND A**, and **NON-STAND B** soft keys and perform trial edits to determine which combination results in properly color framed edits.

2-60 Color Frame Adjust

In System Options menu:

- When Color Frame Checking is **ON**, ACE 25:
  - *Constantly* checks marks, sets, and trims against the "learned" phase of each source VTR. If phase and numbers match, the edit is color framed, and is displayed as "C" in the CF column. If phase and numbers do not match, the edit is not color framed, and is displayed as "N" in the CF column for the VTR.
  - Does *not* permit non-color framed edit.
  - Displays the following

    Edit Not Color Framed

    error message.
  - Inhibits PREVIEW and PERFORM edit.
- When Color Frame Checking is **OFF**, ACE 25:
  - Does *not* check color framing.
  - Permits non-color framed edits.
  - Does not display error messages.
  - Does not inhibit PREVIEW and PERFORM edit.

With Color Frame Checking **ON** and the error message

Edit Not Color Framed

displayed, press HOME, **COLOR FR ADJUST** to force the non-color framed source VTR forward to the next correct color frame in the sequence. This causes "N" to change to "C," and the error message

Edit has been Color Frame Adjusted

to appear.

The rules that ACE 25 follows for color frame checking are simple, based on the timecode and phase of the machine. For example, in NTSC:

- If phase of record VTR is A, and phase of source VTR is A, ACE 25 will always match up LIKE with LIKE (EVEN numbers with EVEN, ODD with ODD). ACE 25 specifically looks at *last* number in "frames" column of timecode. If numbers match, edit is color framed; if they do not, error message appears. See examples below of "match" and "no match" conditions.

VTR	Entry Point Timecode	ACE Menu	Note
Match			
Record	1:00:00:02	A C	Color Framed
Source	2:00:00:12	A C	Color Framed
No Match			
Record	1:00:00:02	A C	Color Framed
Source	2:00:00:13	A N	Not Color Framed

- Similarly, if phase of record VTR is B, and phase of source VTR is B, ACE 25 will attempt to match up LIKE with LIKE. See examples below.

VTR	Entry Point Timecode	ACE Menu	Note
Match			
Record	1:00:00:11	B C	Color Framed
Source	2:00:00:07	B C	Color Framed
No Match			
Record	1:00:00:11	A C	Color Framed
Source	2:00:00:18	A N	Not Color Framed

- If the phase of the record VTR is A, and the learned phase of the source VTR is B, ACE will attempt to match up LIKE with UNLIKE (EVEN with ODD numbers). See examples below.

VTR	Entry Point Timecode	ACE Menu	Note
Match			
Record Source	1:00:00:12 2:00:00:03	A C B C	Color Framed Color Framed
No Match			
Record Source	1:00:00:24 2:00:00:04	A C B N	Color Framed Not Color Framed

2-61 INITIALIZING ENGINEERING PARAMETERS

The following paragraphs describe how to set up all parameters associated with communications to and from other ACE editors and peripheral devices. As with both System Options and Hardware Options, Engineering Options can be initialized, changed and stored in configuration files.

From the Engineering Options area, the following functions can be performed:

- Installed Options can be verified.
- System software version can be verified.
- Serial or parallel printer port can be chosen.
- Communications parameters can be set on serial ports 1 and 2.
- GPI pulse width can be set on all 4 GPI ports.

Debug Options function is also available in the Engineering Options area, but access is restricted to ACE software programmers only.

2-62 Installed Options

To view the installed hardware options on your ACE 25 system, press SYS INIT, **ENGINEER OPTIONS** on System Initialization Menu 1. This calls the Engineering Options soft key menu to the screen. Press **INSTALLED OPTIONS**. A small window appears at the top of the display as shown in Figure 2-17.

The Installed Options window displays the video standard of your ACE 25 (NTSC, PAL or PAL-M), and the status of three system options: the comments keyboard, the internal video switcher, and the internal audio switcher. The window reports "Installed" or "Not Installed" accordingly.

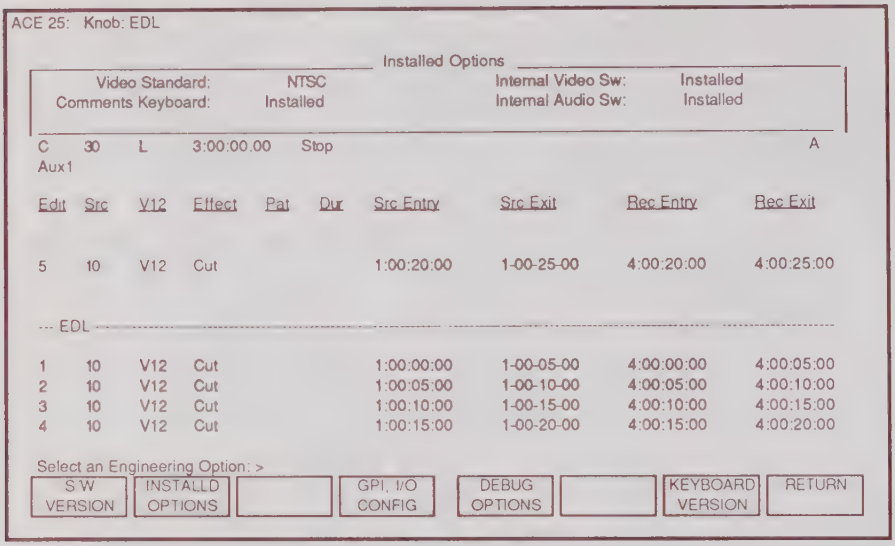

ACE 25: Knob: EDL
Installed Options
Video Standard: NTSC
Comments Keyboard: Installed
Internal Video Sw: Installed
Internal Audio Sw: Installed
C 30 L 3:00:00.00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
5 10 V12 Cut 1:00:20:00 1-00-25-00 4:00:20:00 4:00:25:00
--- EDL ---
1 10 V12 Cut 1:00:00:00 1-00-05-00 4:00:00:00 4:00:05:00
2 10 V12 Cut 1:00:05:00 1-00-10-00 4:00:05:00 4:00:10:00
3 10 V12 Cut 1:00:10:00 1-00-15-00 4:00:10:00 4:00:15:00
4 10 V12 Cut 1:00:15:00 1-00-20-00 4:00:15:00 4:00:20:00
Select an Engineering Option: >
S/W VERSION
INSTALLD OPTIONS
GPI, I/O CONFIG
DEBUG OPTIONS
KEYBOARD VERSION
RETURN

Figure 2-17. Installed Options Window

2-63 Software/Keyboard Version

To verify the system's software version in operation on your ACE 25:

1. Press SYS INIT, **ENGINEER OPTIONS**. This calls up the Engineering Options menu:

2. Press **S/W VERSION**. The version of ACE 25 software that is currently in operation on your system will be displayed on the top of the CRT, showing both the version's number and date of release.

3. To verify the keyboard's software version, press **KEYBOARD VERSION**. The version of software that is currently running on your system's keyboard will be displayed.

Both **S/W VERSION** and **KEYBOARD VERSION** are engineering functions, designed to quickly notify Engineering and Tech Support if you are using the latest versions of software. These functions assist in troubleshooting your system if the need arises.

2-64 GPI, I/O Configuration Window

The GPI, I/O Configuration window is used for choosing a printer port (either serial or parallel), assigning the serial port used for file transfer, and setting serial I/O parameters such as baud rate and parity.

From the Engineering Options soft key menu, press **GPI, I/O CONFIG**. This brings the following warning to the screen:

> **WARNING!**
>
> **It is highly recommended that only qualified engineering personnel proceed beyond this point.**
>
> **Do not change any engineering parameters without referring to ACE-25 service manual.**

This warning should be heeded.

When the warning is on screen, the following soft key menu is displayed:

Press **CONFIRM** to bring the GPI, I/O Configuration menu to the screen. See Figure 2-18.

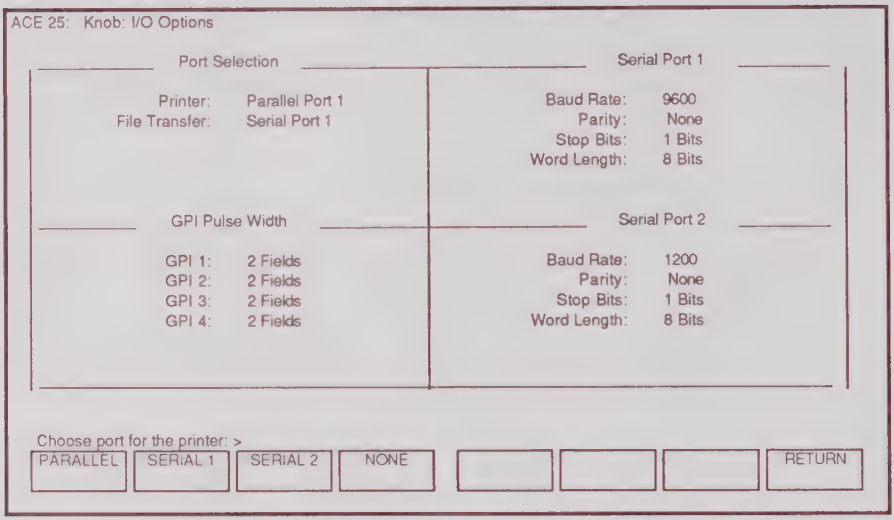


Figure 2-18. GPI, I/O Configuration Window

The GPI, I/O Configuration Window is divided into four sections: Port Selection, GPI Pulse Width, Serial Port 1, and Serial Port 2.

Press **CANCEL** to return to the Engineering Options menu.

2-65 Printer Port Selection

In the Port Selection section in the GPI, I/O Configuration window, data can be transmitted to a printer on one of three communications ports on ACE 25: the RS 232 Serial 1 port, the RS 232 Serial 2 port, or the Parallel Printer port. With the GPI, I/O Configuration window on screen, use the knob to scroll to the "Printer:" line to bring the following soft key menu to the screen:

Press **PARALLEL**, **SERIAL 1**, or **SERIAL 2** in accordance with which port will be used for the printer. Select **NONE** if a printer is not used.

Note

Parallel printer port is selected by default when system is booted for the first time. Port is preset and needs no setup adjustments.

2-66 File Transfer Port Selection

Files can be transferred to other ACE 25s, other editing systems, and other peripheral devices on one of two RS 232 serial ports. Scroll to the "File Transfer:" line in the "Port Selection" area to display the following menu:

Press **SERIAL 1** or **SERIAL 2** in accordance with which port will be used for file transfer. Select **NONE** if neither serial port will be used.

Both the printer port selection and the file transfer selection will be stored when you write a configuration file.

2-67 Setting Serial I/O Communications Parameters

The Serial Port 1 and Serial Port 2 sections in the GPI, I/O Configuration window provide information on how to match the communications protocol of your ACE 25 with other serial devices for purposes of transferring files. Peripheral devices may include a serial printer, a modem, another ACE 25, or another computer editing system.

Although all serial communications parameters, i.e., baud rate, parity, stop bits and word length, can be set using the GPI, I/O Configuration window, it may not be necessary to make any changes to the default parameters which are selected automatically when system software is booted. However, it is recommended that any changes be done by qualified engineering personnel.

Note

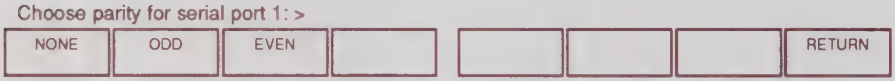
For successful data transfers, both transmitting and receiving units must have identical communication parameters. If you have to change parameters, ensure both units match.

If **SERIAL 1** was selected as the port for file transfer, set serial I/O communication parameters as follows:

1. Use the rotary knob to scroll to the "Baud Rate:" line in the Serial Port 1 section. This brings the following menu to the screen:

2. Press the appropriate soft key to select the baud rate.

3. Use the knob to scroll to the "Parity:" line. This brings the following menu to the screen:



4. Press the appropriate soft key to select the parity.

5. Use the knob to scroll to the "Stop Bits:" line. This brings the following menu to the screen:

6. Press the appropriate soft key to select the stop bits.

7. Use the knob to scroll to the "Word Length:" line. This brings the following menu to the screen:

8. Press the appropriate soft key to select the word length.

9. When all desired parameters have been set, press **RETURN**.

If **SERIAL 2** was selected as the port for file transfer, follow the same procedure as above for setting up communication parameters.

These options should only need to be set once during initial setup of the ACE 25 system. All settings will be stored in your configuration files.

2-68 Setting GPI Pulse Width

As standard equipment, ACE 25 provides four independent General Purpose Interface (GPI) ports. The GPI port connector is physically located on the rear connector panel of the Edit Controller Chassis. These GPI ports are provided to trigger external devices such as an ADO, an audio cart machine or a character generator. The GPI pulse widths are preset at 2 fields when the system is booted for the first time. If a peripheral device requires a wider pulse, the widths can be changed from the GPI, I/O Configuration menu.

In the GPI, I/O Configuration window, use the rotary knob to scroll to the "GPI 1:" line in the GPI Pulse Width section. This brings the following soft key menu to the screen:

Use the keypad to enter the pulse width you wish to assign to GPI port 1. The numbers represent units of fields. Then press **GPI PULSE**. The new setting is displayed on the CRT.

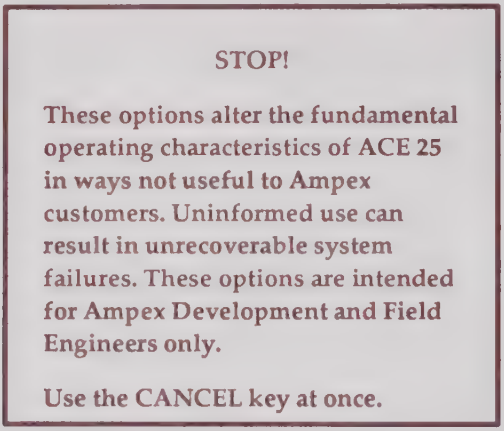
Adjust pulse widths for GPI ports 2, 3, and 4 in a similar manner.

These pulse widths should only need be set once during initial setup of the ACE 25 system. All settings will be stored in your configuration files.

2-69 Debug Options

The last soft key on the Engineering Options menu is Debug Options. This area is *strictly* off limits to operators. It is retained on the system to provide visible assistance to ACE Software and Hardware Engineers as well as Ampex Technical Support personnel, should the need arise to troubleshoot a system problem.

Pressing the soft key **DEBUG OPTIONS** produces the following warning:


STOP!
These options alter the fundamental operating characteristics of ACE 25 in ways not useful to Ampex customers. Uninformed use can result in unrecoverable system failures. These options are intended for Ampex Development and Field Engineers only.
Use the CANCEL key at once.

This warning should be heeded. Press the **CANCEL** soft key immediately.

2-70 INTERNAL AUDIO SWITCHER SET UP

Note

Paragraphs 2-71 through 2-79 apply only to ACE 25 systems having an optional internal audio switcher installed.

To select system audio options, press SYS INIT, **AUDIO OPTIONS** on System Initialization Menu 1. The menu shown in Figure 2-19 appears on screen.

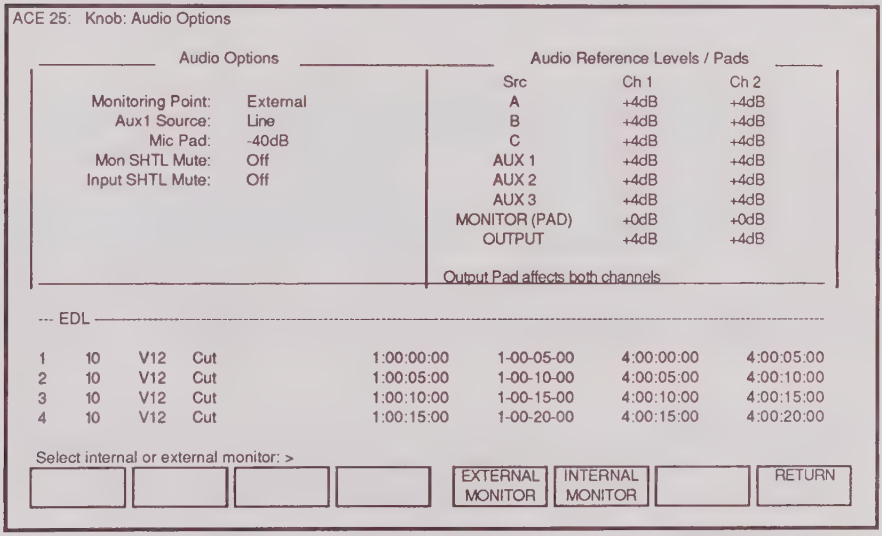

ACE 25: Knob: Audio Options
Audio Options
Monitoring Point: External
Aux1 Source: Line
Mic Pad: -40dB
Mon SHTL Mute: Off
Input SHTL Mute: Off
Audio Reference Levels / Pads
Src Ch 1 Ch 2
A +4dB +4dB
B +4dB +4dB
C +4dB +4dB
AUX 1 +4dB +4dB
AUX 2 +4dB +4dB
AUX 3 +4dB +4dB
MONITOR (PAD) +0dB +0dB
OUTPUT +4dB +4dB
Output Pad affects both channels
--- EDL
1 10 V12 Cut 1:00:00:00 1-00-05-00 4:00:00:00 4:00:05:00
2 10 V12 Cut 1:00:05:00 1-00-10-00 4:00:05:00 4:00:10:00
3 10 V12 Cut 1:00:10:00 1-00-15-00 4:00:10:00 4:00:15:00
4 10 V12 Cut 1:00:15:00 1-00-20-00 4:00:15:00 4:00:20:00
Select internal or external monitor: >
EXTERNAL MONITOR
INTERNAL MONITOR
RETURN

Figure 2-19. Audio Options Window

Soft keys in this window permit you to set the monitoring point, set Aux 1 to Mic or Line, adjust the Mic pad, control monitor and input shuttle muting, and adjust audio reference levels for all inputs on the internal switcher.

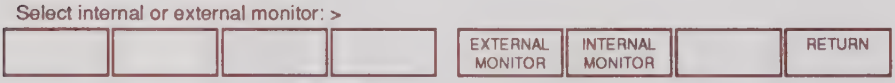
2-71 Monitoring Point

If the ACE 25 Switcher Interface kit is installed, there are four audio XLR "monitor" connectors on the switcher interface panel, located at the bottom of ACE 25's rear chassis. These connectors are labelled as follows:

- CH. 1 MONITOR IN
- CH. 2 MONITOR IN
- CH. 1 MONITOR OUT
- CH. 2 MONITOR OUT

Connect Channel 1 and 2 Monitor Out to the left and right inputs of your edit bay's audio power amplifier and speaker system. Next, connect the Channel 1 and 2 audio outputs of your Record VTR to the Channel 1 and 2 Monitor inputs on ACE 25's rear audio panel. Your edit bay's audio system is now set up to get the maximum flexibility from the "Monitoring Point" software feature.

To select monitoring point, scroll highlight to "Monitoring Point:" line on the left hand side of the screen. The Monitoring Point soft key menu appears:



Select **EXTERNAL MONITOR** to route audio *in* to the Internal Audio switcher's monitor loop from your Record VTR's outputs. The signal then loops out to the monitor outputs, and on to your power amplifier and speaker system.

Select **INTERNAL MONITOR** to route audio from the Internal Audio switcher's input bus to the monitor outputs.

In this way, you can choose to monitor audio directly out of the audio switcher, or audio off-tape *through* the Record VTR.

2-72 Aux 1 Mic/Line Selection

On ACE 25's Internal Audio switcher, Aux 1 is switchable between Mic and Line. To select either option, use rotary knob to highlight the "Aux 1 Source:" line on the Audio Options display. The following menu appears:

Note

Aux 1 source refers to Channel 1 input 4 and Channel 2 input 4 audio XLR connectors on ACE 25 switcher interface rear panel.

Select **LINE INPUT** to permit both channel 1 and channel 2 Aux 1 source inputs to provide standard line impedance for the input material.

Select **MIC INPUT** if a microphone is to be used on the Aux 1 source inputs. Then use rotary knob to highlight "Mic Pad:" on the screen. The following menu appears:

Select **MIC PAD –40 dB** or **MIC PAD –60 dB** to accommodate the type of microphones in use.

2-73 Shuttle Muting

The Shuttle Muting feature is designed to protect audio speakers, headphones, and ears from high-frequency audio caused by VTRs shuttling at high speed. Muting can be enabled or disabled for the Monitor loop and the output lines. To enable or disable this feature, scroll the highlight to the "Mon SHTL Mute:" line. The following soft key menu appears:

Choose the desired setting for Monitor shuttle muting: **ON** or **OFF**.

Scroll the highlight to the "Input SHTL Mute:" line. Choose the desired setting for Input (Line) shuttle muting: **ON** or **OFF**.

For both the Monitor loop and the Input (Line) path, with Muting **ON** audio will drop in level as the selected VTR shuttles. With Muting **OFF**, audio will remain at the current setting as the selected VTR shuttles.

2-74 Reference Levels

In the "Audio Reference Levels/Pads" area on the Audio Options menu, ACE 25 permits setting of audio reference levels and pads, via software, on all inputs and outputs of the internal audio switcher.

This menu area is divided into three columns. The left column lists all input audio sources (A, B, C, AUX 1, AUX 2, and AUX 3), monitor input, and line output. Titles correspond to the XLR audio connectors on ACE 25's switcher interface panel. For channels 1 and 2, connectors on the panel are labelled INPUTS 1, 2, 3, MIC LINE 4, 5, 6, MONITOR IN, and PGM OUT.

The middle and right columns display the current setting of the reference levels for channel 1 and channel 2 for each source.

Scroll highlight to a channel in "Src" column. The following menu appears:

Press **CH 1 REF LEV +0 dB**, **CH 1 REF LEV +4 dB**, or **CH 1 REF LEV +8 dB**, as appropriate to select 0 dB gain, +4 dB gain or +8 dB gain, respectively, for the audio material on channel 1.

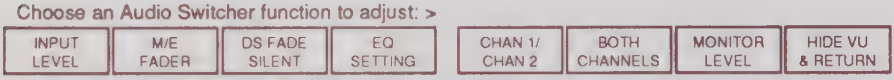
Press **CH 2 REF LEV +0 dB**, **CH 2REF LEV +4 dB**, **CH 2 REF LEV +8 dB**, as appropriate to select 0 dB gain, +4 dB gain or +8 dB gain, respectively, for the audio material on channel 2.

Repeat the above procedure to set gain for each channel in use listed in the "Src" column.

All settings will be stored in your configuration files.

2-75 INTERNAL AUDIO SWITCHER ADJUSTMENTS

The optional internal audio switcher's level and EQ (equalization) settings are adjusted using the keyboard's rotary knob, in conjunction with VU meter and bar-graph displays on the monitor screen. Press HOME, then **AUDIO SWITCHER** on Edit Construction Menu 1, to call the Audio Switcher Function Choice menu to the screen. The following soft key menu is displayed:



INPUT LEVEL, M/E FADER, DS FADE SILENT, and **EQ SETTING** indicate the functions that can be adjusted. For each adjustment, select a source audio (**A, B, C, AUX 1, AUX 2,** or **AUX 3**) and channel (**CHANNEL 1, CHANNEL 2** or **BOTH CHANNELS**) to be adjusted.

2-76 Setting Tone Level To Record VTR

Following is a simple procedure for setting tone level at 0 VU to the Record VTR in your system:

1. On the Hardware Options menu, assign **TONE** to source Aux 3 (Audio crosspoint 7). On the Audio Options menu, set the reference level of the Aux 3 channels to match your record VTR and audio system.

2. On the Keyboard, press CUT, followed by AUX 3.

3. Press HOME, **AUDIO SWITCHER** to call the Audio Switcher Function soft key menu to the screen.

4. Press **INPUT LEVEL** on the Audio Switcher Function menu. The VU meter will appear on the CRT display. Press **BOTH CHANNELS**. Turn the rotary knob clockwise to increase the tone level to zero VU.

5. Leaving the tone level set at 0, make sure that the Record VTR is in EE, and adjust the channel 1 and channel 2 input potentiometers to read 0 VU. ACE 25's output and the Record VTR's input are now matched. Do not change the input settings on the Record for the duration of the edit session.

2-77 Source Input Level Adjustments

For each VTR and Aux source in the edit system, adjust the audio input level to the internal audio switcher as follows:

1. Verify that all system audio cables are properly connected, from the source VTR's to ACE 25's internal audio switcher, and from ACE 25's audio switcher output to the record VTR's input. See Appendix A, "Installation," for audio switcher connections.

2. Press **INPUT LEVEL** on the Audio Switcher Function menu. The VU meter window will appear in the upper right of the menu display. See Figure 2- 20 below.

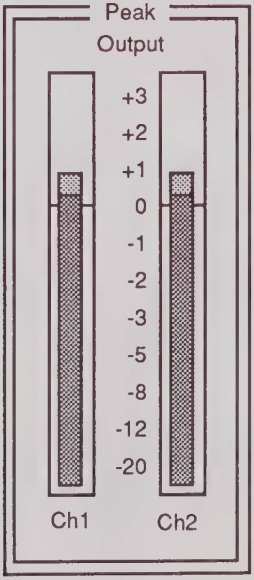


Figure 2-20. ACE 25 VU Meter

3. Select the audio source to be adjusted (A, B, C, AUX 1, AUX 2, or AUX 3). The audio source you select will be displayed at the top of the VU meter window.

4. Select the audio channel on which to set input levels (**BOTH CHANNELS** or **CHAN 1/CHAN 2**). The selected audio channel is displayed at the top of the VU meter window and highlighted on the meters.

5. If the source tape is recorded with Bars and Tone at the head, rewind the tape to the beginning, and put the VTR into PLAY.

6. Locally on the source VTR, set output playback level of the recorded tone to 0 dB or 100 VU.

7. Turn the rotary knob clockwise to increase the audio input level, counterclockwise to decrease the level. Observe the level as displayed on the VU meters on screen, and adjust for 0 dB. In this way, input level to ACE 25 matches output level from the source VTR. Check also that 0 dB reads on the record VTR's input meters.

8. Follow the same procedure for all channels on all other sources used in the edit session, both VTR and AUX sources. Repeat steps 3 through 7 as required. Adjust input audio levels as needed throughout the session, but leave the VTR and source playback levels set at 0 dB or 100 VU on the VTR itself.

Press **HIDE VU AND RETURN** to remove the VU display from the screen and return to the previous soft key menu.

Note

ACE 25 stores all audio level information in EDL, per edit, source, and channel. To view this information press HOME, MORE, DISPLAY CHANGE, and select AUDIO.

2-78 Monitor Level Adjustment

Adjust the monitor level from the internal audio switcher as follows:

1. On the Audio Options menu, select monitoring point: **INTERNAL** or **EXTERNAL.**

2. Select the source or record VTR, and put it in PLAY.

3. On the Audio Function choice menu, press **MONITOR LEVEL.**

4. Select the audio channel on which to set monitor levels (**BOTH CHANNELS** or **CHAN 1/CHAN 2**).

5. Turn the rotary knob clockwise to increase the audio monitor level, counterclockwise to decrease the level. In this way, you can adjust monitor gain for a comfortable level without affecting input levels.

2-79 Equalization Adjustment

For each VTR and Aux source in the edit system, using the internal audio switcher you can set equalization on 3 bands as follows:

1. On the Audio Switcher Function menu, press **EQ SETTING.** The following soft key menu is displayed:

2. Select a source (A, B, C, AUX 1, AUX 2, or AUX 3) for EQ adjustment.

Note

Selecting Record VTR (R) returns an error message. Only sources can have EQ set.

3. Select an EQ band. Press **LOW 100 HZ, MID 1.0 KHZ** or **HIGH 10 KHZ** to choose either the low, mid, or high frequency ranges to be equalized. The EQ window appears in the upper right of the menu display, showing bar graphs for each range. See Figure 2-21. The selected range is highlighted on the display.

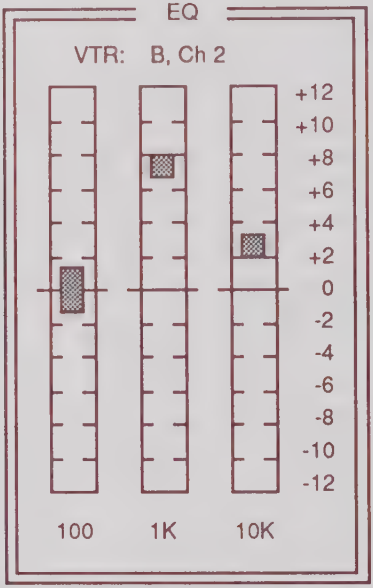


Figure 2-21. ACE 25 EQ Display

4. Select the audio channel (**CHAN 1/CHAN 2** or **BOTH CHANNELS**) to equalize. Note that the audio channel and source you selected are displayed at the top of the EQ window.

5. Each EQ range is marked off in 1 dB steps, from +12 to –12, with a small white bar marking the current setting. Turn the knob clockwise to increase EQ level, counterclockwise to decrease level. With VTR or Aux source in PLAY, listen to the source through the audio monitors, observe the marker on the graph, and adjust for desired equalization.

6. Follow the same procedure for all channels on all other sources used in your session, both VTR and Aux. Repeat steps 2 through 5 as required. Adjust your EQ as required throughout the session.

Note

ACE 25 stores all equalization information in EDL, per edit, source, and channel. To view this information press HOME, MORE, DISPLAY CHANGE, and select AUDIO.

2-80 CONFIGURATION FILES

The configuration file system on ACE 25 permits you to store on a file disk *all* of the initialization parameters in a simple and convenient manner. The areas that are stored in a configuration file are:

- System Options
- Hardware Options
- Engineering Options
- Audio Options

Two types of configuration files are used: a Default Configuration file and User Configuration files. The *Default* Configuration file is used by the system at bootup to recall the most commonly used system parameters that you have selected. There can be only *one* Default file on disk. The *User* Configuration files are your way of customizing the system and all associated parameters and options. There can be *multiple* User Configuration files on disk.

For example, you can utilize the User Configuration files to

- store your own preroll, postroll, and reaction times in a file;
- store a spare source VTR and all its associated crosspoints and options in a file;
- store various system configurations in a file where VTR A is the record machine, VTR B is the record machine, etc.; and
- store various sets of Aux crosspoint assignments.

The User Configuration files save valuable time when changing system configurations. User files can be named, using the comments keyboard, or given a number from the ACE 25 keyboard. Each editor using ACE 25 can keep his or her own file disk on hand. Instead of changing each parameter individually for the next setup or session, you can simply call up a file from disk. ACE downloads the information instantly.

The following paragraphs detail all the procedures available with Configuration files. These procedures comprise:

- Write Configuration files to disk.
- Read Configuration files from disk.
- Remove Configuration files from disk.
- Print Configuration files to printer.
- Copy Configuration files to new file name.
- Transmit Configuration files to another system.
- Receive Configuration files from another system.

Note

ACE 25 version 3.0 Configuration files cannot be used with version 2.0 software.

2-81 Configuration File I/O Display

The screen display for all ACE 25 file I/O operations is very similar.

1. Press SYS INIT to access the System Initialization Menu 1.

2. Press **CONFIG FILES** to access the File I/O function choice menu.

3. Press **WRITE** to call up a sample Configuration File "Write" I/O screen for reference. See Figure 2-22.

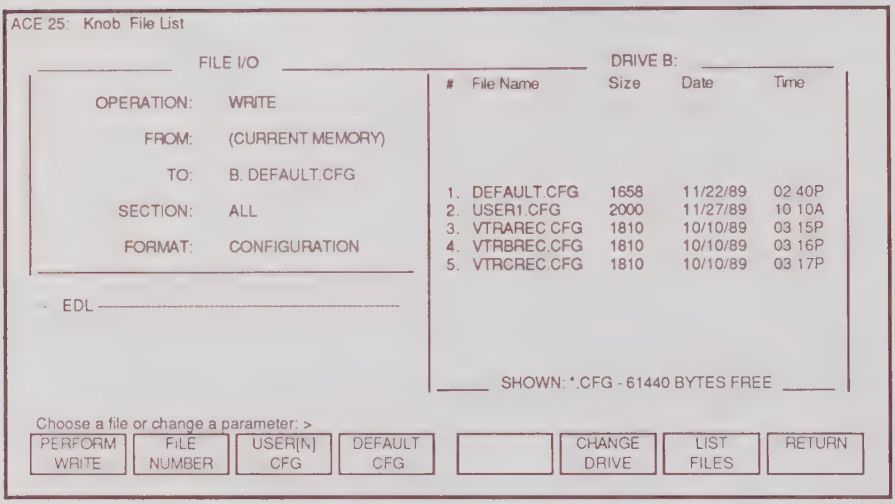


Figure 2-22. Configuration File I/O "Write" Screen

Note

The term "PERFORM" in PERFORM WRITE soft key always reflects operation selected on File I/O Choice menu. If "WRITE" is selected, soft key displays PERORM WRITE; if "REMOVE" is selected, soft key displays PERFORM REMOVE; etc.

The window overlaying the left side of the screen reflects the transaction being built, with the highlight moving to show what is being entered. The visual emphasis is on the operation.

Table 2-1 describes functions of headings on left side of the File I/O window:

Table 2-1. File I/O Window Headings

Heading	Function
OPERATION	Verifies action requested (Write, Read, Remove, etc.).
FROM	Shows source for transaction: current memory is source for "Writing"; files on disk are source for "Reading"; etc.
TO	Displays destination of operation: file on disk is destination for "Writing"; printer is destination for "Printing"; etc.
SECTION	Displays portion of EDL on which operation is performed. SECTION is disabled for Configuration files and can be One, Group, or All for EDL Files.
FORMAT	Displays format of file to be read, written, removed, etc. FORMAT is CONFIGURATION for Configuration files, and can be SMPTE or CMX for EDL Files.

The right-hand window shows the directory list as read in from disk and sorted. Name, size, date, and time are displayed for each file. The rotary knob scrolls the files up and down in this window.

2-82 Write Configuration Files

Use the following procedure to write Configuration files on the disk:

1. Press SYS INIT then **CONFIG FILES** to access the File I/O function choice menu.

2. Press **WRITE** on the File I/O function choice menu to bring up the Configuration File I/O "Write" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Write" operation (refer to Figure 2-22), "FROM" source is current memory (all initialization files currently set on system), and "TO" destination is requested file name to be written on disk.**
- **"PERFORM WRITE" verifies requested action.**

3. Select any one of the following five methods to write a Configuration file:

Perform Write — Using the knob, scroll directory to the desired Configuration file to write *over*, and press **PERFORM WRITE**. The "Confirm Operation" menu appears. Press **CONFIRM** to write, or **CANCEL** to abort. All system options will be written to the selected file.

Named File — If a comments keyboard is connected to your ACE 25, type a file name on the keyboard, using a maximum of eight characters. When **RETURN** is pressed *on the comments keyboard,*

that name is used for the file to be written. The three-letter suffix ".CFG" (Configuration) is appended to the typed name. This method is the best way to identify your configuration files by name and function.

Numbered File

Enter a number on the keypad, and press **FILE NUMBER**. This function will write over a file *already* on disk, using as reference the number in the left column of the directory. Press **CONFIRM** to write or **CANCEL** to abort.

User Numbered File

Enter a number on the keypad and press the soft key **USER [n].CFG**. The contents of the keypad will be appended to USER, followed by .CFG, and used to write the filename. If the file already exists, you will be asked to **CONFIRM** or **CANCEL**.

Default File

Press **DEFAULT.CFG**. If the file already exists, you will be asked to **CONFIRM** or **CANCEL**. This is the "boot-up" file. When ACE 25 first boots, it will automatically look for this file on the disk in drive "B."

Note

Only one Default file per disk is permitted, and it is highly recommended that, once your most common system and hardware parameters are set, you only keep *one* default file per *system*.

4. Use the following three functions as necessary:

Change Drive	As standard procedure, files should be written to drive B. However, if required, press **CHANGE DRIVE** to switch the current drive between A: and B:. This would permit you to write files to drive A. Refer to paragraph 2-17 for details.
List Files	Pressing **LIST FILES** resets selected drive, reads directory, and displays the contents. Refer to paragraph 2-16 for details.
Return	Pressing **RETURN** hides the directory window and returns you to the File I/O function menu.

2-83 Read Configuration Files

Use this procedure to read back Configuration files from the disk. You can use this method to read User files, or even read back the Default Configuration file, if you want ACE 25's initialization options "reset" after a session.

1. Press SYS INIT then **CONFIG FILES** to access the File I/O function choice menu.

2. Press **READ** on the File I/O function choice menu to bring up the Configuration File I/O "Read" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Read" operation, "FROM" source is selected file from disk, and "TO" destination is current memory.**
- **"PERFORM READ" verifies requested action.**

3. Select any one of the following five methods to read a Configuration file:

Perform Read	Using the knob, scroll the directory to desired Configuration file to read, and press **PERFORM READ**. All system option settings will be read in to current memory.
Named File	If a comments keyboard is connected, type desired file name. When **RETURN** is pressed *on the comments keyboard*, that name is used for "read." If ACE 25 cannot find file, the message **No Matching Files Found** will be displayed.
Numbered File	Enter a number on the keypad, and press **FILE NUMBER**. This function will read a file from disk, using as reference the number in the left column of the directory.
User Numbered File	Enter a number on the keypad, and press **USER [n].CFG**. The contents of the keypad will be appended to USER, followed by .CFG, and used to read the file name. If ACE 25 cannot locate the requested file on disk, the message **No Matching Files Found** will be displayed.
Default File	Press **DEFAULT.CFG**. The Default configuration file will be read in to current memory.

4. At the conclusion of "Read," ACE 25 returns to File I/O function choice menu.

2-84 Remove Configuration Files

"Remove" is a straightforward extension of the previous Read and Write operations. Use the following procedure to remove Configuration files from the disk:

1. Press SYS INIT then **CONFIG FILES** to access the File I/O function choice menu.

2. Press **REMOVE** on the File I/O function choice menu to bring up the Configuration File I/O "Remove" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Remove" operation, "FROM" source is selected file from disk, and "TO" destination is (not applicable), as the file will be erased from disk.**
- **"PERFORM REMOVE" verifies requested action.**

3. Select any one of five methods to remove a Configuration file:

Perform Remove — Using the knob, scroll directory to the desired file to remove, and press **PERFORM REMOVE**. The **REMOVE** operation must be confirmed before it begins. Press **CONFIRM** or **CANCEL**.

Named File — If comments keyboard is connected, type the desired file name *on the keyboard*. When **RETURN** is pressed on the comments keyboard, that name is used for the "Remove." Press CONFIRM or **CANCEL**.

Numbered File	Enter a number on the keypad, and press **FILE NUMBER**. This function will remove a file from disk, using as reference the number in the left column of the directory. Press **CONFIRM** to remove, or **CANCEL** to abort.
User Numbered File	Enter a number on the keypad, and press **USER [n].CFG**. The contents of the keypad will be appended to **USER**, and used to remove the file name. If ACE 25 cannot locate the file on disk, the message **No Matching Files Found** will be shown. Press **CONFIRM** or **CANCEL**.
Default File	Press **DEFAULT.CFG**. Press **CONFIRM** or **CANCEL**. The Default configuration file will be removed from disk.

4. At the conclusion of "Remove," ACE 25 returns to the File I/O function choice menu.

2-85 Print Configuration Files

Use the following procedure to print Configuration files to a serial or parallel printer.

1. Press SYS INIT then **CONFIG FILES** to display the File I/O function choice menu.

2. Press **PRINT** on the File I/O function choice menu to bring up the Configuration File I/O "Print" screen, which displays the following soft key menu:

Choose a file or change a parameter: >

PERFORM PRINT	FILE NUMBER	USER[N] .CFG	DEFAULT .CFG		CHANGE DRIVE	LIST FILES	RETURN

Note

- **On File I/O screen for Print operation, "FROM" source is selected file from disk, and "TO" destination reflects printer connected to system.**
- **"PERFORM PRINT" verifies requested action.**

3. Select one of the following five methods to print a Configuration file:

Perform Print — Using the knob, scroll the directory to the desired file to print, and press **PERFORM PRINT**.

Note

For print, special file 0 (THIS CONFIG) is listed, to permit you to print current configuration file in memory.

Named File — If a comments keyboard is connected, type the desired file name on the keyboard. When **RETURN** is pressed *on the comments keyboard*, that name is used for the "Print."

Numbered File — Enter a number on the keypad, and press **FILE NUMBER**. This function will print a configuration file from disk, using as reference the number in the left column of the directory. If ACE 25 cannot locate the requested file on disk, the message

No Matching Files Found

will be displayed.

User Numbered File — Enter a number on the keypad, and press **USER [n].CFG**. The contents of the keypad will be appended to USER, and used to print the file name.

Default File — Press **DEFAULT.CFG**. The Default configuration file will be printed.

4. At the conclusion of "Print," ACE 25 returns to File I/O function choice menu.

5. Press SYS INIT then **I/O CONTROL** to access the following soft key menu:

Select from the following I/O (Input/Output) options when printing is in progress.

Halt Serial — Pressing **HALT SERIAL** terminates any serial communications in progress. This function applies mainly to **TRANSMIT** and **RECEIVE** operations.

Form Feed — When the printer is idle, pressing **FORM FEED** advances printer to top of next page.

Printer Reset — Pressing **PRINTER RESET** resets printer with carriage return and line feed.

Halt Printing — Pressing **HALT PRINTING** terminates print.

2-86 Copy Configuration Files

Use the following procedure to copy a Configuration file to a new file name:

1. Press SYS INIT then **CONFIG FILES** to display the File I/O function choice menu.

2. Press **COPY** on the File I/O function choice menu to bring up the Configuration File I/O "Copy" screen, which displays the following soft key menu:

Note

Copy function requires two file names. On File I/O screen for the Copy operation, "FROM" source is selected file from disk, and "TO" destination is selected or named file.

3. Select a "FROM" file by any of the methods outlined above as with reading or printing files. The "FROM" line in the left window reflects the selected file.

4. When the "FROM" name is selected, press **CHANGE TO**. The highlight now moves to the "TO" line. At this point, two soft key changes take place:

   - After pressing **CHANGE TO**, the soft key **RETURN** changes to **CHANGE FROM**. Use **CHANGE FROM** if you want to go back and re-select the "FROM" file.
   - Also after pressing **CHANGE TO**, the soft key changes to **PERFORM COPY**, verifying the copy procedure.

5. Select a "TO" file by any of the methods outlined above, as with reading or printing files. The "TO" line in the left window reflects the selected file.

6. When both the "FROM" and "TO" files are selected or named, press **PERFORM COPY** to initiate the copy function.

7. At the conclusion of "Copy," ACE 25 returns to the File I/O function choice menu.

2-87 Transmit Configuration Files

Use the "Transmit" procedure to send Configuration files to the serial port. Before transmitting files, insure that the serial port configuration (baud rate, parity, etc.) is identical on both the transmitting and receiving systems.

1. Press SYS INIT then **CONFIG FILES** to display the File I/O function choice menu.

2. Press **TRANSMIT** on the File I/O function choice menu to bring up the Configuration File I/O "Transmit" screen, which displays the following soft key menu:

Note

- **On File I/O screen for Transmit, "FROM" source is selected file from disk, and "TO" destination is serial port selected for file transfer.**
- **"PERFORM TRANSMIT" verifies requested action.**

3. Select a "FROM" file to be transmitted by any of the methods outlined above, as with reading or printing files. The "FROM" line in the left window reflects the selected file.

4. When the "FROM" name is selected, press **PERFORM TRANSMIT**. The transmission begins at this point, with verification of the number of bytes transmitted on the top line of the menu.

5. Use the **I/O CONTROL** menu if necessary to halt the serial transmission: press SYS INIT, **I/O CONTROL**, **HALT SERIAL**.

6. At the conclusion of "Transmit," ACE 25 returns to the File I/O function choice menu.

2-88 Receive Configuration Files

Use the "Receive" procedure to receive Configuration files via serial port. Ensure serial port configuration is identical on transmitting and receiving systems.

1. Press SYS INIT then **CONFIG FILES** to display the File I/O function choice menu.

2. Press **RECEIVE** on File I/O function choice menu to bring up the Configuration File I/O "Receive" screen, which displays the following soft key menu:

Note

- **On File I/O screen for Receive, "FROM" source is serial port selected, "TO" destination is selected file on disk.**
- **"PERFORM RECEIVE" verifies requested action.**

3. Select a "TO" file to receive a configuration file from another system by any of the methods outlined above, as with reading or printing files. The "TO" line in the left window reflects the selected file.

4. When the "TO" name is selected, press **PERFORM RECEIVE**. ACE 25 now waits for transmission from the other system to begin, and, when transmission begins, verifies the number of bytes received on the top line of the menu.

5. Use the **I/O CONTROL** menu if necessary to halt the serial reception. Press SYS INIT, **I/O CONTROL**, **HALT SERIAL**.

6. At the conclusion of "Receive," ACE 25 returns to the File I/O function choice menu.

2-89 BATTERY BACKUP

Battery backup is standard in ACE 25 for EDL and the Configuration files.

ACE 25 uses a system of internal "battery-backed" Random Access Memory (RAM). When system power is turned off, ACE 25 automatically retains and stores the current EDL in RAM. When system power is next turned on and software is loaded, the list is available once again. In this way your edit decision list is protected in case the system is turned off accidentally, or in case of power failure. Battery backup holds this data for as long as seven years. If the list is not needed during the current edit session, the EDL should be erased from memory at the start of a new session using **SESSION RESET**.

Retention of EDL by battery-backup is automatic. However, Configuration files must be manually stored in non-volatile RAM if you want them available in this manner.

To store Configuration files in non-volatile RAM:

1. Press SYS INIT. On System Initialization Menu 1, press **MORE**. This calls up System Initialization Menu 2:

2. Press **NON-VOL MEMORY** to call up Battery-Backed options menu:

3. Press **STORE CONFIG** to place all system configuration options in non-volatile memory.

4. Press **RECALL CONFIG** to recall configuration options from battery-backed RAM.

2-90 PREPARING TAPES

Problems can be avoided by establishing certain pre-editing procedures.

Remember the following:

- "Stripe" all source tapes with sequentially ascending timecode.
- Prepare written log of scenes on source tapes, with corresponding timecodes of important scenes and "takes."

Program tapes and record master tapes frequently have a leader at the head of the tape. This leader usually contains color bars and tone for equipment set-up. If the tape is a record master, there is usually a "slate" which notes important identifying information, such as program length, record date, facility, and Editor's name.

To prepare a record master tape:

1. Check that the record VTR has a clean reference input, and that source "BLACK" is routed to the VTR's input.

2. Set the VTR's internal timecode generator to 57:00:00, and record crystal black and timecode for the *entire length* of the master tape.

   At the conclusion of this "striping" process, a "crystal black" master tape is ready for editing.

3. Now, record the leader (bars, tone, and slate) on the master tape.

   The following easy, six-step leader method guarantees that program tapes are consistent, and that your first edit of program material begins exactly at 1:00:00:00 straight up. This is also an easy way to always know how long your program is.

On your master tape, record leader as follows:

a. From 58:00:00 to 58:30:00, record 30 seconds of black.

b. From 58:30:00 to 59:30:00, record 1 minute of bars and tone.

c. From 59:30:00 to 59:40:00, record 10 seconds of black.

d. From 59:40:00 to 59:50:00, record 10 seconds of slate.

e. From 59:50:00 to 1:00:00:00, record 10 seconds of black, or 8 seconds of countdown and 2 seconds of black.

f. At 1:00:00:00, start program material.

The EDL for above "leader" looks as shown in Figure 2-23.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
1	Blk	V__	Cut	:00	30-00	58:00:00	58:30:00
2	Aux3	V12	Cut	:00	1-00-00	58:30:00	59:30:00
3	Blk	V__	Cut	:00	10-00	59:30:00	59:40:00
4	Aux1	V__	Cut	:00	10-00	59:40:00	59:50:00
5	Blk	V__	Cut	:00	10-00	59:50:00	1:00:00:00

Figure 2-23. Sample EDL

2-91 PRE-START CHECKLIST

- Format new file disks for EDLs and Configuration files as required.
- Initialize system, including System Options, Hardware Options, Audio Options, and Engineering Options. Store these options in Default configuration file or User file as required.
- Load master tape onto record VTR. Ensure that the tape has been recorded with base black and timecode.
- Load tapes containing source material onto source VTRs.
- Assign reel numbers to source tapes, and color frame learn each one.

2-92 AND NOW...

If you have followed all the instructions thus far, you are now ready to edit with ACE 25. If you have not edited with an ACE 25 before, see Section 4 to familiarize yourself with the ACE 25 display.

If you wish to check VTR transport functions, or want additional keyboard information, see Section 3.

If everything is set up to this point, including initialization options, engineering parameters, source and record tape preparation, color frame learn procedure, and keyboard and menu familiarization, it's time to begin...

SECTION 3

ACE 25 DISPLAYS

3-1 INTRODUCTION

The following items are discussed in this section:

- Data monitor display
- System status lines
- Edit Construction List (ECL) and Edit Decision List (EDL) displays
- Keyboard Register and Timecode display
- Cathode Ray Tube (CRT) Bright and Dim indicators

3-2 USING THE DISPLAY

The display monitor (also called the display screen or CRT) gives you valuable information about the entire edit system: the status of all devices, where you are in the edit process, and what edits you have completed.

The display screen is divided into five different areas:

- System status lines
- Transport status area
- Edit Construction List (active edit area)
- EDL area
- Keyboard register and soft keys

3-3 SYSTEM STATUS LINES

At the very top of the screen, on line 1 (top left-hand corner), you can view messages that let you know the status of the edit in progress: what the rotary knob is currently controlling, e.g., Jog.; and what mode is currently in effect, e.g., Preview (see Figure 3-1) or Perform Edit.

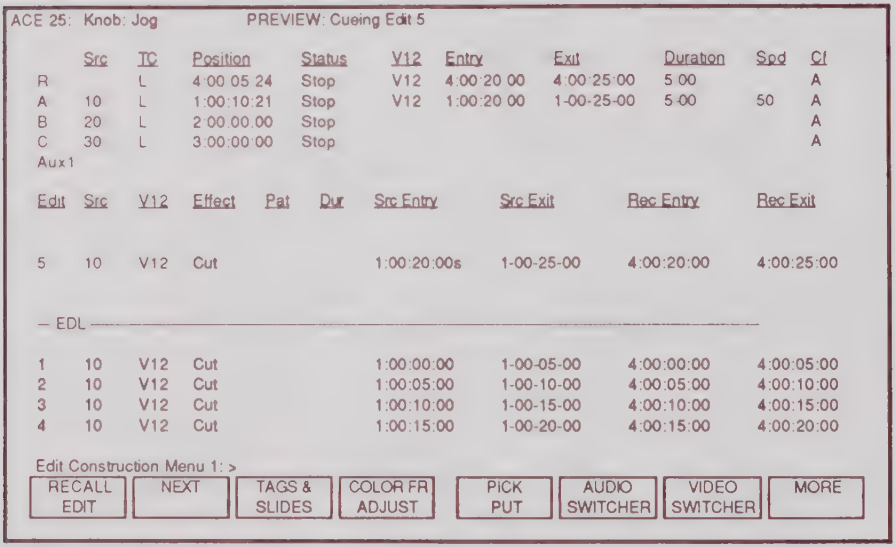

ACE 25: Knob: Jog
PREVIEW: Cueing Edit 5
Src TC Position Status V12 Entry Exit Duration Spd Cl
R L 4:00:05:24 Stop V12 4:00:20:00 4:00:25:00 5:00 A
A 10 L 1:00:10:21 Stop V12 1:00:20:00 1-00-25-00 5:00 50 A
B 20 L 2:00:00:00 Stop A
C 30 L 3:00:00:00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
5 10 V12 Cut 1:00:20:00s 1-00-25-00 4:00:20:00 4:00:25:00
EDL
1 10 V12 Cut 1:00:00:00 1-00-05-00 4:00:00:00 4:00:05:00
2 10 V12 Cut 1:00:05:00 1-00-10-00 4:00:05:00 4:00:10:00
3 10 V12 Cut 1:00:10:00 1-00-15-00 4:00:10:00 4:00:15:00
4 10 V12 Cut 1:00:15:00 1-00-20-00 4:00:15:00 4:00:20:00
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

Figure 3-1. CRT Menu Status Message Line 1

On line 1, during the execution of preview/perform edits, detailed status messages are displayed to the operator. Table 3-1 lists the status messages and when they appear.

Table 3-1. System Status Messages, Line 1

When	Message
Start of preroll	PREVIEW: Cueing Edit ### PERFORM: Cueing Edit ###
During edit interval	PREVIEW: Rolling Edit ###, V12 PERFORM: Rolling Edit ###, V12
End of postroll	PREVIEW: Completed Edit ### PERFORM: Completed Edit ###
Open-ended edit	PREVIEW: Rolling Edit ### OPEN-ENDED PERFORM: Rolling Edit ### OPEN-ENDED
During assemble edit	PREVIEW: Rolling Edit ### ASSEMBLE PERFORM: Rolling Edit ### ASSEMBLE

The status line also indicates when the VTRs are Cueing, Rolling, and when the event has completed. Lastly, the status line shows the mode of the edit, Video only (V__), Audio only, (_1_, __2, or _12), or both Audio and Video (V12, V1_, or V_2).

Line 2 of the CRT is exclusively reserved for error messages and notes, such as

Error: Edit not color framed

and

Edit has been color-frame adjusted.

3-4 TRANSPORT STATUS AREA

The area immediately below the error message and notes line is the Transport Status area. This area of the CRT is divided into 11 columns, which show all the VTRs in the system and their status.

Column 1 indicates the selected source. When you press a source hard key, the corresponding letter on the screen in this column changes to reverse video. Table 3-2 lists the source letters and their descriptions.

Table 3-2. Transport Status: Column 1

Item	Description
R	Record VTR
A	A source VTR
B	B source VTR
C	C source VTR
BLK	Aux source line. Shows AUX 1, AUX 2, AUX 3, or BLK, per hard key selection on keyboard.
Unmt	Unmounted Reel. Appears only if unmounted reel is selected in current edit.

Table 3-3 lists the headings of the next 10 columns and defines the data displayed in each column.

Table 3-3. Transport Status Headings: Columns 2-11

Heading	Description
Src	Source. Displays reel number currently loaded on that transport.
TC	Timecode. Indicates type of timecode being read from that tape machine: Longitudinal timecode (L), Tape timer (T), or Vertical Interval timecode (V).
Position	Displays timecode address where VTR is currently positioned.
Status	Displays current transport status of VTR: play, rewind, stop, VarPlay, dead (no VTR attached), etc.
V12	Displays video and audio channels selected from machine for edit.
Entry	Shows timecode address of edit in point (entry point) selected for VTR.
Exit	Shows timecode address of edit out point (exit point) selected for VTR.
Duration	Displays duration (length) of edit selected (exit point minus entry point).
Spd	Speed. Used for slow motion editing. Displays speed for transport in percentages of 100 (Normal Play).
Cf	Color frame. Shows color frame phase of selected VTR, based on color frame learn.

The Transport Status area is the "nerve center" of the display. This is where you can monitor, at a glance, all information relative to the current edit and each VTR on line—where the action of VTRs syncing up for edit, searching for a timecode entry point, unthreading, in variable play, etc., can all be easily and clearly seen. Coupled with the bright and dim indicators, ACE 25 makes it easy to "pick out" the active VTRs and all associated active parameters.

3-5 EDIT CONSTRUCTION LIST (ACTIVE EDIT AREA)

The area in the center of the display is called the Edit Construction List or ECL. It contains the active edit that is currently under construction. Edit construction is the process used to create each edit selection of sources and material, times, transitions, etc.

Each edit is assigned a number and displayed on the screen. An edit can be a single line event such as a cut, a two line event such as a dissolve or a wipe, or even a multiple line event such as a split edit or an effect with a GPI trigger.

Five lines of information are displayed. The center line is bright, indicating that the information on *that* line can be changed, entered, trimmed, etc. The ↑ (arrow up) and ↓ (arrow down) hard keys on the keyboard are used to scroll the ECL up and down. This allows you to scroll and make any line active or bright, in order to change, enter, or trim information.

The ECL is divided into 10 column headings as described in Table 3-4.

Learning the column headings and their functions within an edit helps you "read" the ECL and EDL easily. Knowledge of the ECL headings and data should become second nature to you after a few edit sessions. You will know what to expect, what the different types of edits should look like on screen, and be able to spot problems with greater ease. Note that the edit you build in the ECL appears exactly the same way in the EDL.

Table 3-4. ECL Headings

Heading	Description
Edit	Displays current edit number, or "R" if edit has been recorded.
Src	Source. Shows reel number of source reel selected for edit.
V12	Video, Audio 1, Audio 2. Displays video and audio channels selected from machine for edit.
Effect	Shows type of edit under construction (cut, dissolve, wipe, key).
Pat	Pattern. Displays pattern number if type of edit is a wipe.
Dur	Duration. Displays duration (length) of effect, if effect is a dissolve, wipe, or key.
Src Entry	Source Entry. Shows selected in point (entry point) timecode address of Playback VTR, and "s" after Source Entry to denote that VTR was at slow motion speed, other than 100 play.
Src Exit	Source Exit. Shows selected out point (exit point) timecode address of Playback VTR.
Rec Entry	Record Entry. Shows selected in point (entry point) timecode address of Record VTR.
Rec Exit	Source Exit. Shows selected out point (exit point) timecode address of Record VTR.

In the ECL, you will also see special lines when applicable. Table 3-5 lists these special headings.

Table 3-5. Special ECL Headings

Heading	Description
GPI (1 - 4)	General Purpose Interface. Displays current GPI trigger (1 through 4) selected for edit. There can be multiple GPI lines and multiple triggers per edit.
Entry + (time)	Entry Plus. Shows that selected GPI's trigger time is Record VTR's entry point plus a specified time.
Entry – (time)	Entry Minus. Shows that selected GPI's trigger time is Record VTR's entry point minus a specified time.
RecAbs (time)	Record Absolute. Shows that selected GPI's trigger time is locked to an absolute time on Record VTR.
SrcAbs (time)	Source Absolute. Shows that selected GPI's trigger time is locked to an absolute time on Source VTR.
* Manual:	Displays automatic comment that Manual mode was used in edit, followed by description. This manual mode flag is always preceded by an asterisk.
* Comment	Displays alphanumeric comment typed in by editor. Comments are always preceded by an asterisk.

Note

See paragraph 6-64 for information on GPI triggers.

See paragraph 7-25 for information on Manual Modes.

See paragraph 5-28 for information on Comments.

3-6 DISPLAY CHANGE

The ECL headings discussed in paragraph 3-5 are the "Normal" ECL column headings, with all numbers and data for construction of edits. But ACE 25 stores much *more* information in the ECL than can be shown in the 80-column display. Therefore, two additional displays are available so that you can view all information that goes into the EDL, and easily switch between displays as needed. The second display is the "Audio" information display (paragraph 3-7), the third display is the "Effects" information display (paragraph 3-8).

3-7 Display Change, Audio

If you have an internal audio switcher connected to your ACE 25, all parameters of the audio switcher setup are stored in the EDL. This feature applies to internal audio switcher *only*. To view this information, press HOME, **MORE**. This brings up the Edit Construction Menu 2:

Edit Construction Menu 2: >

EDIT NUMBER	DELETE LINE	FILL	DISPLAY CHANGE	TRANSPRT	REEL NUMBER	SLO MO SPEED	MORE

Press **DISPLAY CHANGE**. This brings up the Display Options menu:

Select new display option: >

NORMAL	EFFECTS	AUDIO					RETURN

Press **AUDIO**. The ECL headings change to the Audio information display, and any audio information in ECL or EDL is displayed. The first 6 columns (**Edit, Src, V12, Effect, Pat,** and **Dur**) are identical to **NORMAL** display.

Table 3-6 lists the special audio column headings and their descriptions.

Table 3-6. Audio Display Menu Headings

Heading	Description
Ch1 Low	Channel 1: Low-band EQ setting. Displays channel 1's setting of low-band (100 Hz) equalizer for source in edit.
Mid	Channel 1: Mid-band EQ setting. Displays channel 1's mid-band (1 kHz) equalizer setting for source.
Hi	Channel 1: Hi-band EQ setting. Displays channel 1's Hi-band (10 kHz) equalizer setting for selected source.
Level	Channel 1 Audio Level. Displays channel 1's input audio level setting for selected source in edit.
Ch2 Low	Channel 2: Low-band EQ setting. Displays channel 2's setting of low-band (100 Hz) equalizer for source in edit.
Mid	Channel 2: Mid-band EQ setting. Displays channel 2's mid-band (1 kHz) equalizer setting for source.
Hi	Channel 2: Hi-band EQ setting. Displays channel 2's Hi-band (10 kHz) equalizer setting for source.
Level	Channel 2 Audio Level. Displays channel 2's input audio level setting for selected source in edit.

After checking the ECL and EDL in the "Audio" display mode, it is recommended that you return to the "Normal" display mode for basic edit construction and auto-assembly.

3-8 Display Change, Effects

With the following video switchers interfaced to ACE 25, many of the parameters of the video switcher effect setups are stored in ACE 25's EDL.

These switchers include:

- ACE 25 Internal Component Video,
- ACE 25 Internal Composite Video,
- Ampex Vista,
- Ampex Penguin, and
- GVG-100.

To view video information, press HOME, **MORE**. This brings up Edit Construction Menu 2. Press **DISPLAY CHANGE** to bring up the Display Options menu:

Press **EFFECTS**. The ECL column headings change to the Video Effects information display, and any video effects information in ECL or EDL is immediately displayed. The first 6 columns (**Edit, Src, V12, Effect, Pat**, and **Dur**) are identical to the **NORMAL** timecode display.

Table 3-7 lists the special video column headings and their descriptions.

Table 3-7. Video Display Menu Headings

Heading	Description
Start	Fader Start Point. Displays fader start point of A/B effect such as Dissolve. Setting of 0 is full A-bus.
End	Fader End Point. Displays fader end point of A/B effect such as Dissolve. Setting of 1000 is full B-bus.
Width	Border Width. Shows pattern border width, adjusted with knob. Works with Vista, Penguin, and GVG-100.
Clip	Key Clip Level. Displays key clip level of selected effects keyer or DS Keyer. Functions on internal video switchers, Vista, and GVG-100.
Gain	Key Gain Level. Displays gain of selected effects or DS Keyer. Works with internal video switchers only.
Hue	Component Chroma Key Hue Level. Shows component chroma key hue setting of selected effects or DS Keyer. Functions on internal component video switcher only.
Type	Key Type. Shows key parameters selected. Works with internal component and composite switchers only. Uses following three columns of information.
Nor/Inv	Displays selected key type: Normal or Inverted
Lum/Chr	Displays selected key type: Luminance or Chroma
Int/Ext	Displays selected key type: Internal or External
Spd	Speed. Displays speed of selected source transports for slow-motion edits.

After checking the ECL and EDL in the "Video" display mode, it is recommended that you return to the "Normal" display mode for basic edit construction and auto-assembly.

3-9 EDIT DECISION LIST DISPLAY

The area below the ECL is the EDL (Edit Decision List) area. This section of the screen displays a 6-line *window* of the full 1000-line EDL. The EDL itself is the "memory bank" of the edit session, keeping a record of all edit selections, effects, transition times, switcher parameters, and much more. As each edit is completed, it is added to the EDL. The column headings in the EDL follow the *exact* same headings as in ECL.

The center line in EDL is also bright, indicating that the information on *that* line can be changed, or that the highlighted edit can be brought back to ECL for re-edit. The Rotary Knob on the keyboard is used to scroll the EDL up and down. Press the EDL hard key and you can scroll through a list using the knob.

3-10 KEYBOARD REGISTER

Directly below the EDL window, and directly above the eight small windows at the bottom of the display screen (soft key menu display) is a header which changes as the soft key menus change. Adjacent to this header, immediately to the right, is the keyboard register.

The keyboard register displays the following:

- Frame numbers entered on numeric keypad
- Timecode values entered on numeric keypad
- Trim values entered on numeric keypad
- Timecode values brought to keyboard register from EDL, using **PICK/PUT** mode
- Timecode values brought to keyboard register from Entry, Exit, and Duration columns in the Transport Status area, using SET/TRIM ENTRY, SET/TRIM EXIT, and SET/TRIM DUR keys
- Timecode values brought to keyboard register from Position column in Transport Status area, using SHIFT + MARK ENTRY
- Addition and subtraction of timecode values in keyboard register

3-11 TIMECODE DISPLAY

Timecode is displayed in several forms and in many places on the ACE 25 screen: the Transport Status area, the ECL, the EDL, the keyboard register, and the System Initialization menus. Table 3-8 gives descriptions of the various timecode forms.

Table 3-8. Timecode Display Forms

Display Form	Example	Description
Colon	12:10:14:08	Colons (:) separating timecode digits indicate full frame (non-drop) code.
Semicolon	3;34;45;10	Semicolons (;) separating timecode digits indicate drop frame code.
Underscore	4_30_05	Underscores (_) between digits indicate "soft-loaded" numbers, calculated and entered by ACE 25.
Small "s"	04:28:09:09s	Small "s" after source entry indicates source is running in slow motion.
Reverse Dim	04:18:21:04	Numbers shown in reverse dim indicate number conflicts with another hard-loaded number in ECL.

Note

See paragraph 8-3 for information on drop frame and non-drop frame timecode.

See paragraph 4-45 for information on calculated numbers.

See paragraph 4-41 for information on Slow Motion.

See paragraph 4-45 for information on Conflict Menus.

3-12 SOFT KEY MENUS

At the bottom of the CRT are eight windows called the Soft Keys. The information displayed in the soft keys changes depending on which hard key and soft key you press. This is where much of the software "power" of ACE 25 resides: in a system of menus and sub-menus (trees and branches) that keep the dedicated keyboard uncluttered.

Soft keys give you a fast way to move from one point to another in the operating system without having to back-up. Some of the menus change automatically to follow the mode you are in. Other menus can be called up to make settings, adjustments, and effect decisions.

Each soft key uses up to two lines of text for clarity and to avoid abbreviation. The text directly above the soft key menus always indicates the name of the soft key menu or prompts you to an action. For example, pressing WIPE brings up the Wipe Parameter Choice menu, which prompts you to an action as follows:

Pressing HOME, on the other hand, brings up the Edit Construction Menu 1, which is *named* by the text above the soft keys, as follows:

In both cases, the soft key menu presents you with options. Make your choice by pressing the corresponding blank key at the top of the ACE 25 keyboard. Note that the arrow to the right of the text above all soft key menus points to the keyboard register.

When learning the soft key menus, the following rules apply throughout the menu tree:

- Press HOME to get to Home menu (Edit Construction Menu 1). This is the best reference for learning pathways through the soft key tree. HOME *always* gets you back to Edit Construction Menu 1.
- Press **MORE** for more selections. If **MORE** appears on a menu, additional options are available. Also, when you reach the last menu in a loop, **MORE** takes you to the top menu again.
- Press **RETURN** to return to previous menu. Pressing **RETURN** always gets you back to last previous branch.

It is a good idea to spend some time familiarizing yourself with the varied options available with the soft keys. Section Eight provides a key to all soft key menus, which are logically grouped for whatever edit activity you are doing. Some soft key menus are used only during set up or for special applications. You will find that the ones you use most frequently will become very familiar to you and will save you time and key strokes during each edit session.

3-13 BRIGHT AND DIM INDICATORS

As you work with the display you will see that there are different levels of highlighting: bright, dim, and reverse dim. This highlighting provides quick visual cues for what information is currently active, and helps to guide you to the information you need most.

Bright is used to indicate:

- Active numbers

  ACE 25 makes it easy to spot a number that you can set, trim, or change. Press CUT, then A, to set up a cut edit to VTR A. Press R, MARK ENTRY, A, MARK ENTRY. Now, alternately select R and A. Notice that each source's entry point goes bright when selected. If entry point is *bright*, it can be trimmed. Enter a number into the keyboard register. Numbers here are *always bright* and *active*. You can trim them, set them into an entry or exit point in the ECL, clear them, etc.

- Active "system" area

  It is easy to see when either ECL or EDL is active. Press EDL. Notice EDL heading becomes bright. Press HOME. Notice ECL heading becomes bright. If ECL is bright, edit construction area is active, and single edits may be performed. If EDL is bright, Edit Decision List is active, and groups of edits may be auto-assembled.

- Status message changes

  Press A, JOG. Top line of CRT reads

  Knob: Jog

  in bright letters. Press EDL. CRT status message changes to

  Knob: EDL

  in bright characters. Each change of knob's status is displayed in bright letters.

- Active line

  In ECL or EDL, ACE 25 makes it easy to spot which line is active. In ECL, the center line is highlighted and position is fixed. Press DISS, B. Now, press ↑ (arrow up), ↓ (arrow down), and notice that "From" line and "To" line alternately move into center highlight. This bright line is active and changeable, which is true in all edits built in ECL. With edits in EDL, press EDL and move rotary knob. Notice that edits scroll up and down, but center EDL highlight stays locked. Bright EDL line is active and changeable.

- Active Initialization parameter

  Press SYS INIT, SYSTEM OPTIONS, and move rotary knob. Notice that highlight moves from option to option. Bright line is active and changeable.

Dim is used to indicate:

- Status messages on system
- Reel numbers
- Edit entry and exit points *not* selected or involved in edit

Reverse *dim is used to indicate:*

- Transport cursor
- Soft key menus
- Conflicting numbers

Be sure to adjust monitor's brightness and contrast controls for a comfortable level of bright and dim characters. Because lighting in an edit bay can change, and because individual editors have different preferences, do not hesitate to adjust the data monitor right at the start of an edit session for a comfortable level of bright and dim.

SECTION 4

KEYBOARD, TRANSPORT CONTROLS, AND BASIC EDITING

4-1 INTRODUCTION

The following items are discussed in this section:

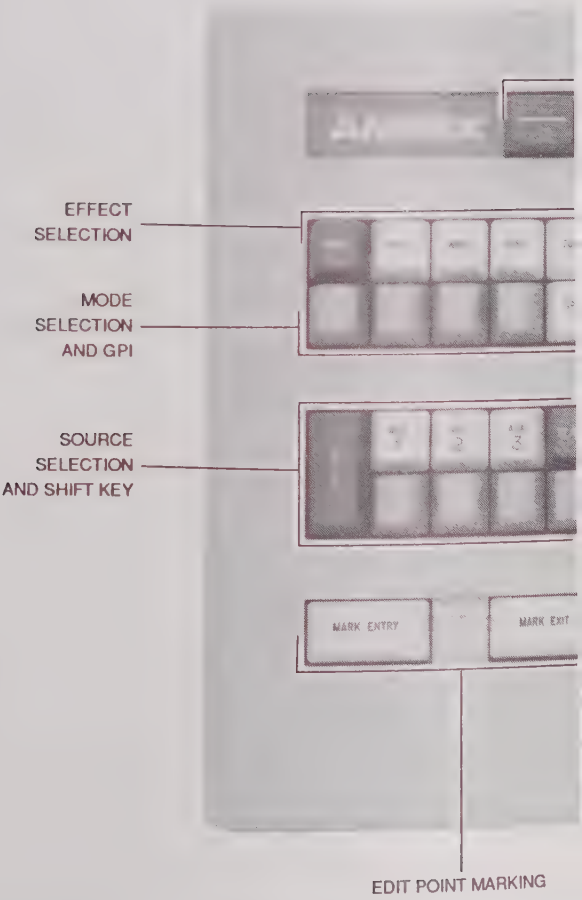
- ACE 25 keyboard
- Transport Controls
- Basic "Cut" editing
- Preview, Replay, Recall Edit
- Basic Split Edit
- Slow Motion editing
- Pick/Put

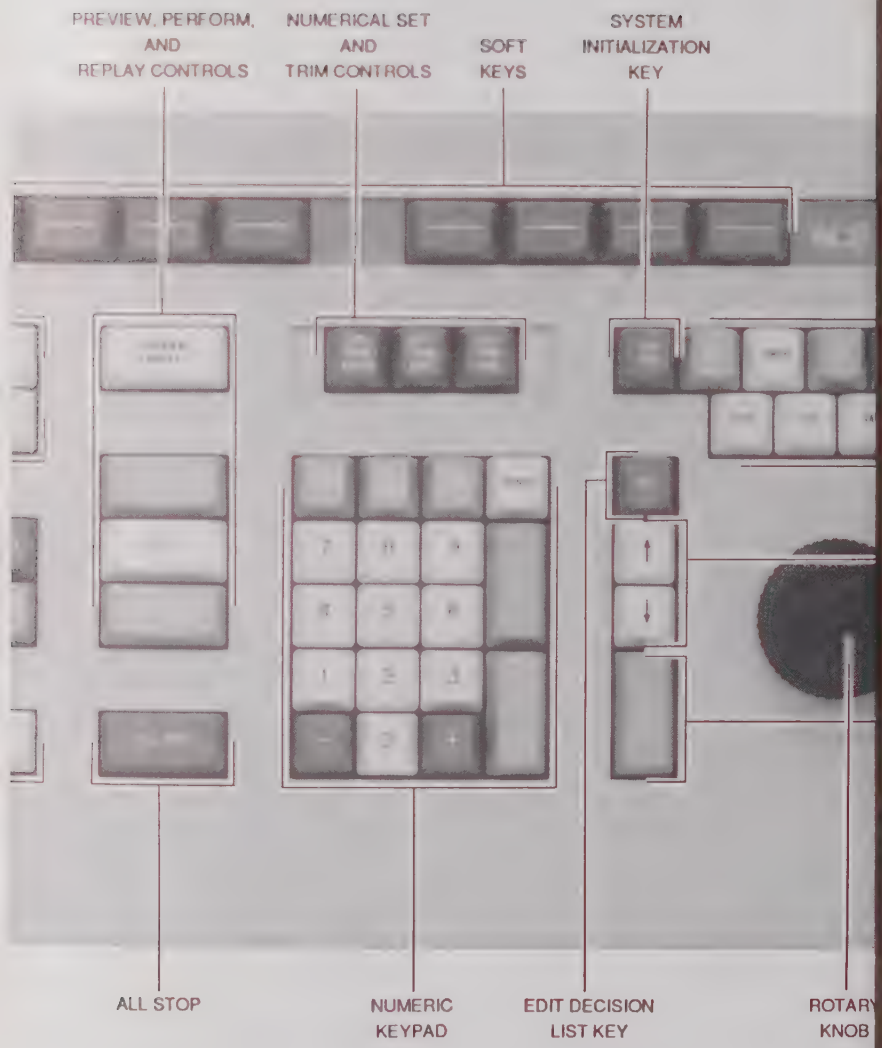
Remember:

- Hard keys are indicated in plain-faced capitals, e.g., SYS INIT.
- Soft keys are indicated in boldfaced capitals, e.g., **MORE**.

4-2 THE KEYBOARD

ACE 25's keyboard is divided into 15 sections as shown in Figure 4-1. Table 4-1 lists these sections and their functions.


EFFECT
SELECTION
MODE
SELECTION
AND GPI
SOURCE
SELECTION
AND SHIFT KEY
MARK ENTRY
MARK EXIT
EDIT POINT MARKING


PREVIEW, PERFORM, AND REPLAY CONTROLS
NUMERICAL SET AND TRIM CONTROLS
SOFT KEYS
SYSTEM INITIALIZATION KEY
ALL STOP
NUMERIC KEYPAD
EDIT DECISION LIST KEY
ROTARY KNOB

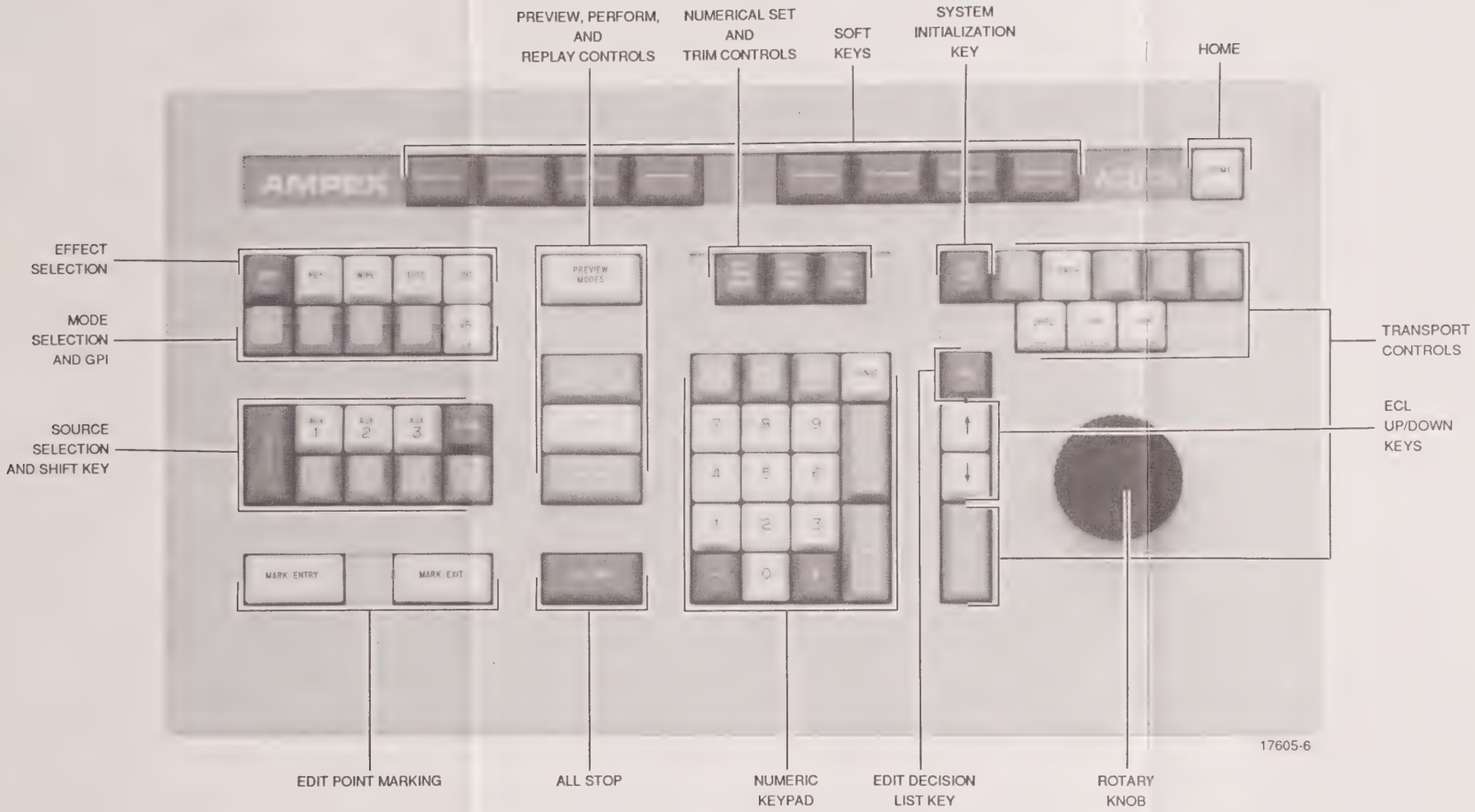


Figure 4-1.
ACE 25 Keyboard

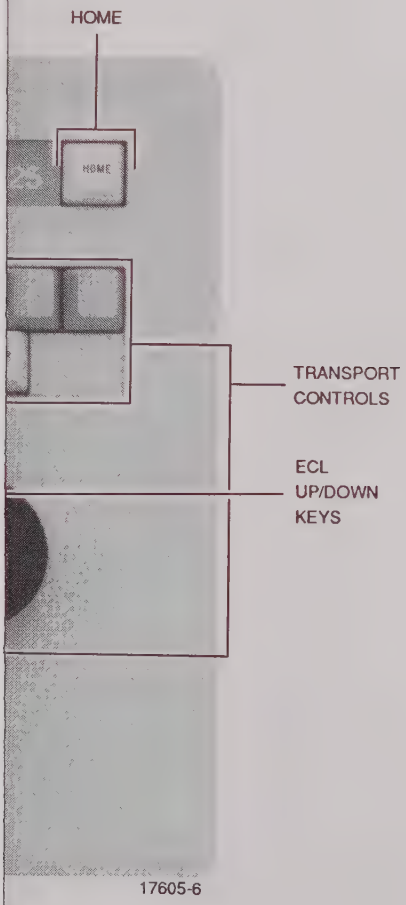


Figure 4-1.
ACE 25 Keyboard

Table 4-1. Keyboard Sections and Descriptions

Section	Function
Soft keys	Correspond to eight windows at bottom of screen. Functions change depending on key pressed.
Home	Returns display to Edit Construction Menu 1.
Effect selection	Select desired switcher effect or manual mode.
Mode selection	Mode keys select audio and video channels and GPI enabled in edit. GPI key programs triggers.
Source selection and Shift key	Source keys select VTR and static sources. Shift accesses alternate function of specific hard keys.
Edit Point Marking	Mark VTR entrance and exit points.
Preview, Perform, and Replay controls	Rehearse and perform edits, and play edits back after recording.
All Stop	Stops all transports in motion.
Numerical Set and Trim Controls	Transfer numbers and trims from keypad to transport status area and ECL.
Numeric Keypad	Enters timecode numbers and frame numbers and performs calculations.
System Initialization	Accesses all initialization sub-menus.
Edit Decision List Key	Accesses all EDL sub-menus.
ECL Up/Down Keys	Scroll active line in ECL up and down.
Transport Controls	Control motion of all VTRs.
Rotary Knob	Multi-function knob for VTR motion, EDL scrolling, switcher adjustment.

4-3 VTR TRANSPORT CONTROLS

The ACE 25 keyboard can control up to four VTRs (Record, A, B, and C). Refer to Figure 4-1.

Note

A "spare" VTR can also be enabled and controlled. Refer to paragraph 2-52, "Assigning The Spare Port."

Tape motion is controlled by

- Source selection keys C, B, A, R, and
- Transport controls.

To control a VTR:

1. Select a VTR by pressing R, A, B, or C. The menu cursor indicates your selection by displaying the selected transport letter in reverse video.

2. Press the appropriate transport key:

   SHTL (Shuttle) places selected VTR in shuttle mode. Speed and direction are now controlled by rotary knob. Turn knob clockwise to move tape forward, counter-clockwise to move tape in reverse. Tape shuttle speed increases the farther you turn. This mode is best used for high-speed search for a scene.

   JOG (Jog) places selected VTR in jog mode. Speed and direction are controlled by rotary knob. Turning knob clockwise or counter-clockwise jogs tape one frame forward or one frame reverse. (Note that on some VTRs, a "1 field" jog is possible). Jog speed increases the faster you turn. This mode is excellent for choosing a precise frame location.

VAR (Variable) places selected VTR in variable play mode. Speed and direction are controlled by rotary knob. Turning knob clockwise moves tape forward, from 0 play speed (still) to maximum forward variable speed (per capabilities of selected VTR) while retaining picture. Counter-clockwise moves tape in reverse variable play. Variable speed increases the farther you turn.

SRCH (Search) brings up the following soft key menu if there is *no* timecode number present in keyboard register:

- **SEARCH ENTRY** sends selected VTR to its marked entry point. CRT line 1 verifies number.
- **SEARCH EXIT** sends selected VTR to its marked exit point. CRT line 1 verifies number.
- **CUE TO PREROLL** sends selected VTR to its preroll point.
- **RETURN** brings soft key menu back to previous menu.

If there *is* a timecode number present in keyboard register, SRCH sends selected VTR to that specific timecode number, and CRT line 1 verifies number.

REW (Rewind) sends selected VTR into shuttle reverse at full speed.

FF (Fast Forward) sends selected VTR into shuttle forward at full speed.

4-4 ALL Hard Key

The ALL key has two basic sets of functions: Transport control and Numerical control. Pressing ALL places *all* VTRs currently on-line in a position ready to respond to the next command activated. When the next command is pressed, the ALL function is carried out.

When ALL is enabled, all VTR cursors in the transport status area change to reverse video. Pressing any source key (R, A, B, C, AUX 1, AUX 2, AUX 3, or BLACK) disables the ALL mode.

Table 4-2 lists the ALL transport control modes and their functions:

Table 4-2. "ALL" Transport Control Modes

Mode	Function
ALL + PLAY	Places all system VTRs in play mode.
ALL + FAST FORWARD	Places all system VTRs in fast forward mode.
ALL + REWIND	Places all system VTRs in rewind mode.
ALL + STOP	Places all system VTRs in stop mode.
ALL + JOG	Places all system VTRs in jog mode. Note that response time of mixed sets of VTRs may vary, i.e., VPR-3s on line with BVU-800s.
ALL + SCANNERS ON	Turns on scanners of all on-line VTRs.
ALL + SCANNERS OFF	Turns off scanners of all on-line VTRs. Same function as SHIFT + ALLSTOP.
ALL + COLOR FRM LEARN	Places all on-line VTRs in Color Frame Learn mode.
ALL + CASSETTE EJECT	Ejects cassettes of all on-line VTRs as applicable.

Table 4-3 lists the ALL numerical control modes and their functions:

Table 4-3. "ALL" Numerical Control Modes

Mode	Function
ALL + MARK ENTRY	Marks entry point on all on-line VTRs.
ALL + MARK EXIT	Marks exit point on all on-line VTRs.
ALL + CLEAR + SET/TRIM ENTRY	Clears all ECL entry points. Useful for clearing numbers without session reset.
ALL + CLEAR + SET/TRIM EXIT	Clears all ECL exit points. Useful for clearing numbers without using session reset.
ALL + CLEAR + SET/TRIM DUR	Clears all ECL durations. Useful for clearing numbers without using session reset.
ALL + (TRIM) (+, –) (KEYPAD ENTRY) + SET/TRIM ENTRY	Allows you to enter or trim all entry points in ECL. Press ALL, followed by + or – on keypad, trim number desired, and press SET/TRIM ENTRY.
ALL + (TRIM) (+, –) (KEYPAD ENTRY) + SET/TRIM EXIT	Allows you to enter or trim all exit points in ECL. Press ALL, followed by + or – on keypad, trim number desired, and press SET/TRIM EXIT.

The following ALL modes are *not* operative on ACE 25, and there are no plans for their implementation. Attempting these modes results in error messages on the screen.

- ALL + VAR
- ALL + SHUTTLE
- ALL + SLO MO SPEED
- ALL + SEARCH (SEARCH ENTRY, SEARCH EXIT, CUE TO PREROLL)
- ALL + SET/TRIM DUR
- ALL + PHASE A (PHASE B)

Note

In ALL modes, CLEAR must be entered immediately before SET/TRIM keys to be effective. ALL + CLEAR + SET/TRIM clears all entry or exit points. CLEAR + ALL + SET/TRIM will not clear all entry or exit points.

If there is any error in trimming or clearing ALL sources, change is aborted and ECL is not updated. With complex edit events, this is likely to occur.

UNDO on numeric keypad restores ECL to state before any of above ALL trim and clear commands were executed.

4-5 STOP/ALL STOP Hard Keys

There are two other transport controls: STOP and ALL STOP (refer to Figure 4-1).

- STOP, located within easy reach of your thumb when using rotary knob, places selected VTR in stop mode.

  Pressing STOP during an open-ended edit or prior to out point during a "closed" edit, causes ACE 25 to immediately make a clean out edit, tag VTRs, and update ECL and EDL.

- ALL STOP, located below Preview, Perform, and Replay Controls section, causes all transports to stop.

  Pressing ALL STOP during any edit causes ACE 25 to immediately make a clean out edit. However, with ALL STOP, ACE will *not* tag VTRs or update ECL and EDL.

4-6 Multiple VTR Control

There are two methods to control motion on *multiple* VTRs simultaneously:

1. Sequentially select VTRs and issue individual transport commands to them, e.g., A, PLAY; B, REWIND; C, VAR; R, SEARCH ENTRY.

2. Press ALL followed by a transport command. All VTRs will now perform the same selected function, e.g., ALL, REWIND (refer to paragraph 4-4).

4-7 Additional Transport Control

The following additional transport controls are located on the Transport Function soft key menu: **LOAD TIMER, VITC / LTC, CASSETTE EJECT, SCANNER ON**, and **SCANNER OFF**.

To access these transport controls, proceed as follows:

1. Press HOME and **MORE** to bring up Edit Construction Menu 2.

2. Press **TRANSPORT** to bring up the Transport Function menu:

4-8 LOAD TIMER Soft Key

Artificial tape time can be loaded into the transport "Position" column on a selected VTR. This is especially useful if a VTR is experiencing breaks in timecode which prevent it from synchronizing for an edit.

The tape timer can be loaded with the *current* position as reported by LTC or VITC, or with a time entered in keyboard register and transferred to the tape timer.

To load the tape timer with a VTR's current reported position:

1. Press R, A, B, or C to select the VTR.

2. Ensure that the keyboard register is clear. If not, press CLEAR.

3. Press **LOAD TIMER**. The CRT line 1 indicates

Creating artificial tape timer for transport (n)

To load the VTR's tape timer with a specific timecode:

1. Press R, A, B, or C to select VTR.

2. Enter a valid timecode into the keyboard register.

3. Press **LOAD TIMER**. The CRT line 1 indicates

Creating artificial tape timer for transport (n)

4-9 VITC/LTC Soft Key

VITC/LTC has two functions: change the type of timecode that a VTR is reading, and return to the previous selection for that VTR, after having used **LOAD TIMER**.

To change the type of timecode a VTR is reading, press **VITC/LTC**. This soft key toggles the timecode reported by selected transport between vertical interval timecode (VITC) and longitudinal timecode (LTC). A "V" in the "TC" column of the CRT indicates VITC, an "L" indicates LTC, and a "T" indicates tape timer time. This function can also be carried out on the Hardware Options menu.

If **LOAD TIMER** was used, and the selected VTR was reading LTC, then pressing **VITC/LTC** returns the VTR to reading longitudinal timecode.

If **LOAD TIMER** was used, and the selected VTR was reading VITC, then pressing **VITC/LTC** returns the VTR to reading vertical interval timecode.

4-10 CASSETTE EJECT Soft Key

The cassette loaded in a selected VTR can be ejected from the ACR 25 by using the keyboard.

1. Press R, A, B, or C to select a single VTR, or press ALL to select *all* transports on line.

2. Press **CASSETTE EJECT**. The cassette in the selected VTR(s) will eject, and the message

   Unthread

   will appear in the transport status column.

4-11 SCANNER ON/SCANNER OFF Soft Key

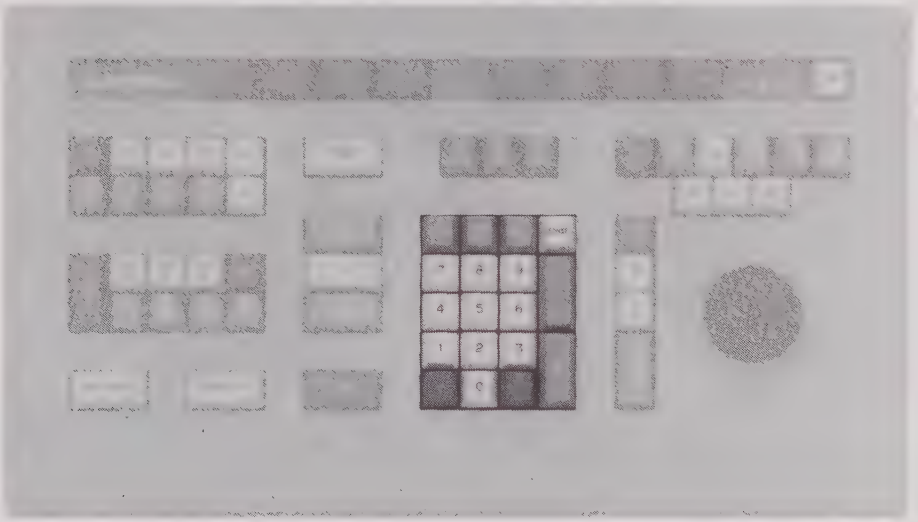
The scanner of a selected VTR can be turned on or off from the keyboard as follows:

1. Press R, A, B or C to select a single VTR, or press ALL to select *all* transports on line.

2. Press **SCANNER ON** to turn on the selected VTR(s) scanner. Press **SCANNER OFF** to turn off the selected VTR(s) scanner, or press SHIFT + ALL STOP to perform an "ALL" scanner off function.

4-12 NUMERIC KEYPAD

The numeric keypad (Figure 4-2) is used for entering numbers, which appear in the keyboard register on the CRT right above the soft key menus.



17605-06

Figure 4-2. Numeric Keypad

Numbers entered in the keyboard register can be assigned as timecode edit points, to modify existing edit points or answer set up questions during initialization.

The keypad can also be used for performing regular numeric calculations and timecode calculations.

The following list identifies all the keys on the numeric keypad, and explains their functions:

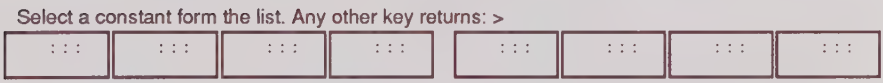
0 - 9	Enter numerals, either in frames or as timecodes (using the ":"). After 5 digits, keyboard register automatically changes from frames to timecode.
CLEAR	Clears all numbers or groups of numbers from keyboard register. CRT displays **CLEAR** on line 1. Key is also used with ALL for clearing groups of numbers from ECL (see paragraph 4-4).
BACKSPACE	Clears last number entered in keyboard register.
UNDO	Undoes last command entered that effects ECL. (Key does *not* function with EDL.) Since editing is frequently about changing your mind, ACE 25 makes changes easy. **Examples:** • If you enter a timecode number as an entry point on source A when it was really the timecode address for the exit point, press UNDO to return entry or exit point to its "last" state. • Or, if you change a cut to a dissolve and decide that you do not like the dissolve, press UNDO to return ECL to cut mode. • You can also UNDO an UNDO if you change your mind again.

CONST

Provides a "simple" one-shot storage register. Enter number on keypad. Press CONST. The number is cleared from keyboard register and stored in "simple" constant register. To trim a number by stored constant, first enter or recall a number to the keyboard register, press + or – on keypad, then CONST, followed by SET/TRIM ENTRY, EXIT, or DURATION. To change stored constant, enter a new keypad number and press CONST. Old number is over-written.

SHIFT + CONST

Provides eight "advanced" constant registers in which to store and retrieve numbers. Enter number on keypad or bring number *down* to keyboard register using SET/TRIM ENTRY, EXIT, or DURATION. Press SHIFT + CONST. The following soft key menu appears:



The eight blank soft keys displayed correspond to the eight "advanced" constant registers. Press any soft key to store number in that location. Note that any keystroke clears advanced constant display. To retrieve a number, press SHIFT + CONST, and select soft key with desired number. Numbers stored in advanced constant registers can be added or subtracted and transferred in normal ACE 25 manner. Advanced register is a convenient storage bin for timecode numbers.

:	Enters a colon followed by two zeroes, thus speeding up timecode entry. For example, to load 1:00:00:00, simply press 1, :, :, : instead of typing in all the zeros.
SHIFT + :	Changes a *non-drop frame* keyboard register timecode entry, displayed as colons, e.g., XX:XX:XX:XX, to *drop-frame*, displayed as semicolons, e.g., XX;XX;XX;XX, and vice-versa.
=	Totals all addition and subtraction of numbers entered in keyboard register.
+	Enters a plus in register, indicating that an addition is to be performed on timecode preceding and following the + sign.

Examples:

- If timecode entry point is 21:41:49:21 and you want to calculate what entry point would be 45 frames later, load 21:41:49:21 into keyboard register and press +, 45, = to get your answer.
- Using + with an empty keyboard register "arms" keyboard register for a trim. Entries, exits, durations, and other values such as effect duration can be trimmed. To add 2 frames to the record entry, press +, 2, R, SET/TRIM ENTRY.
- + pressed once, followed by SET/TRIM ENTRY, SET/TRIM EXIT, or SET/TRIM DUR, adds one frame to selected point.
- + pressed more than once adds 1 frame to number in keyboard register for every + pressed. For example, pressing +, +, + displays +3. Follow with SET/TRIM ENTRY, SET/TRIM EXIT, or SET/TRIM DUR, and selected edit point will be trimmed by number in keyboard register.

–

Enters minus in keyboard register, indicating that a subtraction is to be performed on timecode preceding and following the – sign.

Examples:

- If timecode entry is 21:41:49:21 and you want to calculate an entry point 45 frames earlier, load 21:41:49:21 into keyboard register, and press –, 45, = to get your answer.
- Using – with an empty keyboard register "arms" keyboard register for a trim. Entries, exits, durations, and other values such as effect duration can be trimmed. To subtract 2 frames from the record entry point, press –, 2, R, SET/TRIM ENTRY.
- – pressed once, followed by SET/TRIM ENTRY, SET/TRIM EXIT or SET/TRIM DUR, subtracts one frame from selected point.
- – pressed more than once subtracts 1 frame from number in keyboard register for every – pressed. For example, pressing –, –, – displays –3. Follow with SET/TRIM ENTRY, SET/TRIM EXIT or SET/TRIM DUR, and selected edit point will be trimmed by number in keyboard register.

4-13 SHIFT FUNCTIONS

Use of the SHIFT key has been expanded in ACE 25 to nine different "shifted" functions. Because dedicated key caps do not have double labels, a CRT window has been provided which lists each shifted function to assist the operator. To view this window, press HOME, SYS INIT, **MORE**. This brings up System Initialization Menu 2:

Press **SHIFT FUNCTION**. This brings up a window as shown below in Figure 4-3. All shifted functions are listed and briefly defined. Press **RETURN** to resume editing.

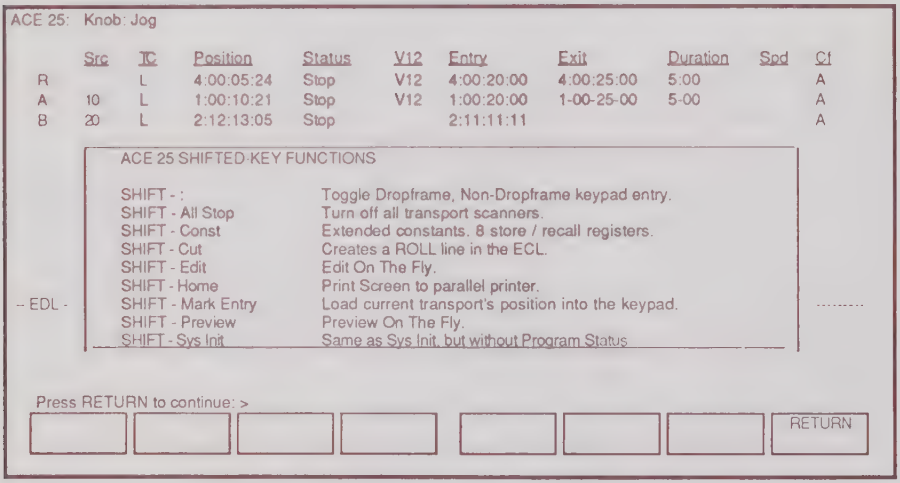

ACE 25: Knob: Jog
Src TC Position Status V12 Entry Exit Duration Spd Ct
R L 4:00:05:24 Stop V12 4:00:20:00 4:00:25:00 5:00 A
A 10 L 1:00:10:21 Stop V12 1:00:20:00 1-00-25-00 5-00 A
B 20 L 2:12:13:05 Stop 2:11:11:11 A
ACE 25 SHIFTED-KEY FUNCTIONS
SHIFT - : Toggle Dropframe, Non-Dropframe keypad entry.
SHIFT - All Stop Turn off all transport scanners.
SHIFT - Const Extended constants. 8 store / recall registers.
SHIFT - Cut Creates a ROLL line in the ECL.
SHIFT - Edit Edit On The Fly.
SHIFT - Home Print Screen to parallel printer.
- EDL - SHIFT - Mark Entry Load current transport's position into the keypad.
SHIFT - Preview Preview On The Fly.
SHIFT - Sys Init Same as Sys Init, but without Program Status
Press RETURN to continue: >
RETURN

Figure 4-3. Shift Function Menu Display

Table 4-4 lists all shift key combinations and describes their functions:

Note

See paragraph 5-7 for details on Print Screen.

See paragraph 7-18 for details on Roll lines.

See paragraph 7-21 for details on Edit on the Fly.

See paragraph 5-3 for details on searching EDL for timecode.

Table 4-4. Shifted Key Functions

Shift Key Combination	Function
SHIFT + :	Changes non-drop frame keyboard register timecode to drop frame, and vice-versa.
SHIFT + ALL STOP	Turns off scanners of all on-line transports.
SHIFT + CONST	Accesses soft key menu for eight advanced constant registers.
SHIFT + CUT	Creates roll line in ECL. Easy way to roll an extra VTR in an edit.
SHIFT + EDIT	Accesses "Edit On The Fly" mode. Allows Cuts, Wipes, and Dissolves in real time and builds a list as you go.
SHIFT + HOME	Prints any ACE 25 screen to parallel printer.
SHIFT + MARK ENTRY	Loads current transport's position into keypad register. Useful for searching EDL for a number without keying it in.
SHIFT + PREVIEW	Previews On The Fly. Same mode as Edit on the Fly, but edits are previewed only. List is still built as you go.
SHIFT + SYS INIT	Same function as pressing SYS INIT, but without Program Status window.

4-14 WORKING WITH NUMBERS

The following paragraphs give examples of how to work with numbers in the ACE 25 environment. Numerical entry functions discussed include:

- Entering numbers as entry points or exit points
- Entering numbers as durations
- Trimming edit entry points, exit points, and durations
- Swapping numbers from one point to another
- Using Pick/Put
- Adding and subtracting numbers
- Using the Conflict soft key menu
- Clearing numbers

Use these examples for reference and practice.

Note

To practice number entry with these examples, begin with SESSION RESET to clear out any previously loaded numbers.

4-15 Entering Numbers as Entry Points or Exit Points

Numbers are entered as entry points or exit points as follows:

- To enter timecode of 1 hour, 30 minutes, 10 seconds, and 2 frames as record entry point:

  1. Press CLEAR to clear the keyboard register if required.
  2. Press the following keys in the order given: 1, :, 3, 0, 1, 0, 0, 2. The keyboard register will show

     1:30:10:02

  3. Press R to select the record VTR.
  4. Press SET/TRIM ENTRY.

- To enter timecode of 10 seconds and 2 frames as source A's entry point:

  1. Press CLEAR to clear the keyboard register if required.
  2. Press the following keys in the order given: 1, 0, :, 2. The keyboard register will show

     10:02

  3. Press A to select a source VTR.
  4. Press SET/TRIM ENTRY.

- To enter 1 hour, 0 minutes, 0 seconds, and 3 frames as source B's exit point:

  1. Press CLEAR to clear the keyboard register if required.
  2. Press the following keys in the order given: 1, :, :, :, 3. The keyboard register will show

     1:00:00:03

  3. Press B to select a source VTR.
  4. Press SET/TRIM EXIT.

- To enter framecount of 125 frames as source C duration:

  1. Press CLEAR to clear the keyboard register if required.
  2. Press the following keys in the order given: 1, 2, 5. The keyboard register will show

     125

  3. Select a source VTR. Press C.
  4. Press SET/TRIM ENTRY.

  On CRT, ACE translates frames to timecode, and enters 4:05. This type of numerical translation is made throughout ACE 25.

4-16 Entering Numbers as Durations

Enter numbers as durations as follows:

- To enter timecode of 10 seconds as record VTR duration:

  1. Press CLEAR to clear the keyboard register if required.
  2. Press the following keys in the order given: 1, 0, :. The keyboard register will show

     10:00

  3. Press R to select the record VTR.
  4. Press SET/TRIM DUR.

  On CRT, ACE enters 10:00 duration and calculated exit point, based on duration. Given two numbers for a VTR (e.g. entry and duration or entry and exit), ACE will *always* calculate the third. This type of automatic calculation is extremely useful for back-timing.

- To enter framecount of 60 frames as source A VTR duration, press A, +, 60, SET/TRIM DUR. ACE 25 will calculate exit point and translate duration to timecode.

- To enter timecode of 5 minutes as source B VTR duration, press B, +, 5, :, :, SET/TRIM DUR.

4-17 Trimming Edit Entry Points, Exit Points, and Durations

Trim edit entry points, exit points, and durations as follows:

Note

Ensure that all numbers are cleared from screen. Press SYS INIT, SESSION RESET, CONFIRM.

- To trim entry via timecode (add 1:00):

  1. Enter a record entry point using steps given in first bullet of paragraph 4-15.

  2. To trim this number, press +, 1, :, SET/TRIM ENTRY.

  Since R is already selected (as shown by reverse video on screen), ACE 25 adds 1 second to entry time.

- To trim entry via framecount (with R still selected), press –, 30, SET/TRIM ENTRY.

- To trim non-existent numbers:

  1. Select a VTR line with only an entry point present. Press +, 20, SET/TRIM EXIT.

     (With only an *entry* present on a VTR line, trimming the non-existent *exit* point calculates and enters both the exit point and the duration for that line.)

  2. Select a VTR line with *both* an entry and exit present. Clear the entry point. Press CLEAR, SET/TRIM ENTRY. Make sure the exit point is still there. Now, press desired source VTR, –, 20, SET/TRIM ENTRY.

     (With only an exit present on a VTR line, trimming the non-existent entry point calculates and enters both the entry point and the duration for that line. This is easy back-timing.)

- To trim exit via framecount, press desired source VTR, +, 30, SET/TRIM EXIT.

- To trim duration via timecode, press desired source VTR, +, 2, :, SET/TRIM DUR.

4-18 Swapping Numbers from One Point to Another

Edit timecodes can be easily copied into the keyboard register from the ECL, and placed elsewhere in the ECL as follows:

- To make record-entry the A entry:

  1. Press CLEAR to clear the keyboard register.
  2. Press R, SET/TRIM ENTRY to bring the timecode number that is the R entry point down into the keyboard register.
  3. Press A, SET/TRIM ENTRY to copy the record entry point to the A entry point.

- To make C entry point the C exit point, press C, SET/TRIM ENTRY, SET/TRIM EXIT. The C entry point is copied to the C exit point.
- Make the R duration the B exit, press R, SET/TRIM DUR, B, SET/TRIM EXIT. The R duration is copied to the B exit point.

4-19 Adding and Subtracting Numbers

Timecodes in the ECL or EDL can be added together, or subtracted from each other, using the keyboard register. This capability is handy for planning program timings or calculating new entry or exit points. The keyboard register can be used as a scratch pad for calculating timecodes.

Add and subtract numbers as follows:

- To add the numbers 1:06:23:18 and 3:24, press 1, 0, 6, 2, 3, 1, 8, +, 3, :, 2, 4, =
- To add together the R entry and the A exit, press R, SET/TRIM ENTRY, +, A, SET/TRIM EXIT, =
- To add together the B entry and the number 3:24, and make the result the C exit, press B, SET/TRIM ENTRY, +, 3, :, 2, 4, =, C, SET/TRIM EXIT
- To subtract two keyboard numbers, press 1, 0, 6, 2, 3, 1, 8, –, 3, :, 2, 4, =

- To subtract a keyboard number from a source ECL duration, and make the result the R duration, press B, SET/TRIM DUR, –, 3, :, 2, 4, R, SET/TRIM DUR
- To calculate a string of 3 numbers (a series of additions and subtractions can be chained together by typing plus or minus before the = key is pressed), press 1, :, 2, 3, +, 2, :, 2, 4, –, 3, :, 1, 5

Note

You do not always have to press =, especially if you do not need to see a calculation result in the keyboard register. ACE always places the numbers where you want, AND makes the calculation.

4-20 Clearing Numbers

Hard-loaded edit points (points displayed with colons or semicolons) can be cleared by one of two methods: individual, or using "ALL." Soft-loaded edit points (points calculated by the ACE 25 and displayed with dashes) cannot be cleared unless the number on which the calculation is based is cleared.

Clear an individual hard loaded edit point as follows:

1. Select transport with number to be cleared.
2. Press CLEAR. The message

   CLEAR

   appears on top line of CRT.
3. Press SET/TRIM ENTRY, SET/TRIM EXIT, or SET/TRIM DUR according to which edit point is to be cleared.

Clear ALL hard loaded edit point as follows:

1. Press ALL.
2. Press CLEAR, SET/TRIM ENTRY, to clear all transport entry points.
3. Press CLEAR, SET/TRIM EXIT, to clear all transport exit points.

4-21 EDIT POINT MARKING

The following three paragraphs discuss the three ways to locate and select edit points on ACE 25: Position Editing, Mark-in, and Set-in. With each method, an example of setting up a simple cut edit is used.

4-22 Position Editing

Position Editing is an excellent way for first-time users of a computer editing system to begin editing, because the process entails minimum keystrokes. You can concentrate on the pictures, and let ACE 25 take care of the numbers. Position editing is done by using the rotary knob to position VTRs at the desired edit start points.

Position editing is a system option in ACE 25 and must be enabled in system initialization. To enable position editing:

1. Press SYS INIT, **SYSTEM OPTIONS**.
2. Scroll the highlight to the position editing line.
3. Press **ON**.

Perform position editing (with a record tape and source tapes loaded on the VTRs) as follows:

1. Press SYS INIT, then **SESSION RESET**, then **CONFIRM** to clear the screen and the EDL of all numbers, and reset the event number to 1.
2. Select R and put the VTR in VAR. While watching the video monitor, turn the rotary knob until you *visually* locate the point where you want to start recording.
3. Press STOP or ALL STOP when you locate the edit point visually. You can also use JOG to visually position the VTR on the start point.
4. Press CUT and select a Source VTR. This sets up a CUT edit. While watching the source VTR monitor, put the VTR in VAR or JOG, and turn the rotary knob until you *visually* locate the edit point that you want. Press STOP or ALL STOP.

5. Press PREVIEW or PERFORM edit (PREVIEW + EDIT simultaneously). VTRs will cue back to the preroll points, and roll for the preview or edit.

   Notice the monitor display. ACE 25 loads "soft" entry points on the screen for both source and record. The underscores between digits indicate soft-loaded numbers. With position editing enabled, if you change your mind and move a VTR to another start point, the soft-loaded number immediately clears.

   Note

   Any transport control clears a soft-loaded entry point with position editing enabled. You CAN trim soft-marked points and hard-marked points with position editing enabled.

6. Press STOP to exit the open-ended edit and update the menu. Press ALL STOP to exit the open-ended edit and *not* update the menu.

7. For the next edit, repeat steps 2 through 6. Visually position each VTR as required, and press PREVIEW or PERFORM edit.

   Note

   You can also perform A/B roll editing with Position Editing enabled. See paragraph 6-2 for details on A/B roll editing.

4-23 Mark-in Editing

The second method of locating and selecting edit points on ACE 25 is Mark-in editing. Mark-in editing is done by pressing the MARK ENTRY and MARK EXIT keys "on-the-fly" as you see the desired edit point on the monitor.

Perform mark-in editing as follows:

1. Make sure that Position Editing is turned **OFF**.
2. Select the Record VTR and put it in PLAY.
3. Press MARK ENTRY when you see the point where you want to start recording. You can also press STOP, or use VAR and JOG to locate the edit point, and then press MARK ENTRY.
4. Press CUT, and select a Source VTR. This sets up a CUT edit.
5. Press PLAY, and press MARK ENTRY at the desired edit in point. The timecode numbers will appear on the CRT in the source entry column. You can also press STOP, or use VAR and JOG to locate the source entry point, and then press MARK ENTRY.
6. If you want the edit to end at a specific source VTR point, press MARK EXIT at the desired source VTR out point. If you want to leave the edit open-ended, do not press MARK EXIT.
7. Press PREVIEW or PERFORM edit.
8. To exit the open-ended edit, press STOP (update) or ALLSTOP (no update). If the edit is closed, it will end automatically and update.
9. For the next edit, repeat steps 2 through 8.

4-24 Set-in Editing

Set-in editing is the third method of selecting edit points. Set-in editing is done by keying in numbers on the keypad and placing them in ECL.

Perform set-in editing as follows:

1. Press **OFF** to ensure that Position Editing is turned off.

2. Select the Record VTR. Using the keypad, load the timecode number of the desired Record entry point into the keyboard register.

3. Press SET/TRIM ENTRY to load the entry point into the ECL. Follow the same procedure for a record exit if required. Key in the number and press SET/TRIM EXIT to load a record exit point into the ECL.

4. Press CUT and select a Source VTR. This sets up a CUT edit.

5. Load timecode number of desired source entry into keyboard register. Press SET/TRIM ENTRY to load the source entry point into ECL.

   If you loaded a record exit, notice that source exit is calculated. If you did not set-in record exit and wish to set-in source exit, key in number and press SET/TRIM EXIT. You can also leave the edit open-ended.

6. Press PREVIEW or PERFORM. To exit, if open-ended, press STOP (update) or ALLSTOP (no update). A closed edit ends automatically.

7. For the next edit, repeat steps 2 through 7.

Note

Most editing is done using a combination of both mark-in and set-in editing. ACE 25 permits all types of marking and selecting edit points to be used simultaneously, without restriction.

4-25 PREVIEW

Preview is a method by which the edit can be rehearsed prior to recording. Many editors will preview, trim the edit points, preview, and trim again several times before pressing PERFORM edit. With a preview, no material is recorded or erased on the master tape, but all entrance and exit points are previewed exactly as they will be recorded.

On ACE 25, there are six different preview modes:

- VVV: Video Video Video preview
- VBV: Video Black Video preview
- BVB: Black Video Black preview
- VV Entrance only preview
- VV Exit only preview
- Switcher Preview

The VVV preview mode is accessed by pressing VVV, located directly above ALL STOP.

The five additional preview mode choices are accessed by pressing PREVIEW MODES located directly above REPLAY. The Preview Choice menu appears

and the appropriate preview mode is selected.

The following paragraphs discuss each preview mode in detail, giving both "simple" and "advanced" examples of each.

The "simple" preview examples use the "both" cut (Video, Audio 1, and Audio 2) edit shown in Figure 4-4, with all channels cutting in and out simultaneously.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
4	10	V12	Cut	59:50:00	1-00-00-00	3:59:50:00	4:00:00:00

Figure 4-4. Sample Edit For "Simple" Preview Examples

Note

See paragraph 6-28 for description of Switcher Preview mode.

This "simple" edit is graphically shown in Figure 4-5, where the time interval of the edit moves from left to right, and each channel is depicted with its in point and out point. Preroll occurs prior to the in point, postroll occurs after the out point.

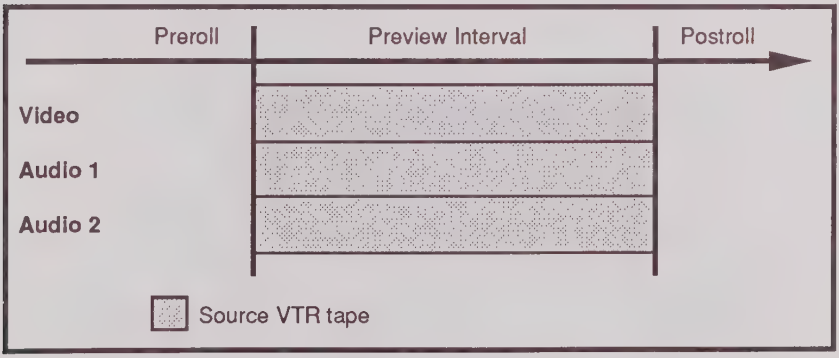


Figure 4-5. Graphic Representation of "Simple" Edit

The "advanced" preview examples use the "split" edit shown in Figure 4-6, with all channels cutting in and out at different record entry times, from different input sources.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
5	10	_1	Cut	1:00:00:00	1-00-08-00	4:00:00:00	4:00:08:00
5	20	V_	Cut	2:00:02:00	2-00-10-00	4:00:02:00	4:00:10:00
5	30	_2	Cut	3:00:04:00	3-00-08-00	4:00:04:00	4:00:08:00

Figure 4-6. Sample Edit For "Advanced" Preview Examples

This "advanced" edit is graphically shown in Figure 4-7, where the time interval of the edit moves from left to right, and each channel is depicted with its split in point and out point. Preroll occurs prior to the earliest split in point, postroll occurs immediately after the last split out point.

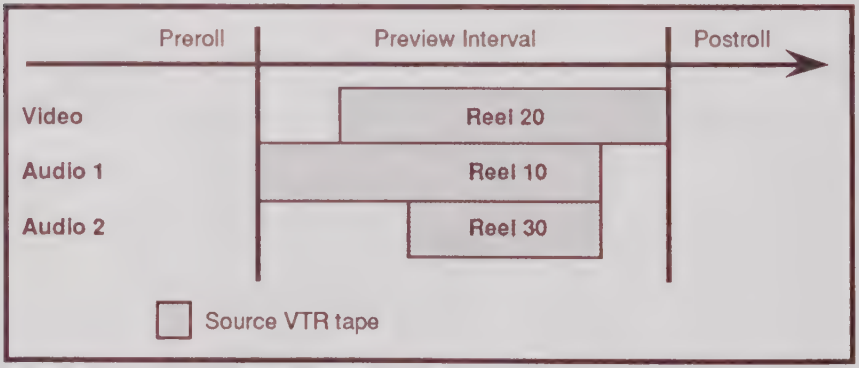


Figure 4-7. Graphic Representation of "Advanced" Edit

4-26 VVV Preview

The standard preview is VVV, or Video Video Video preview. When PREVIEW is pressed, the Record VTR and all source VTRs involved in the edit cue back to their preroll points, roll up to the Record entrance point, preview incoming source material, and finally complete the postroll.

Figure 4-8 graphically represents a VVV preview of a simple cut. During a VVV preview, if you monitor picture and sound through the Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	Picture and sound off incoming source tape.
Postroll:	Picture and sound off the record tape.

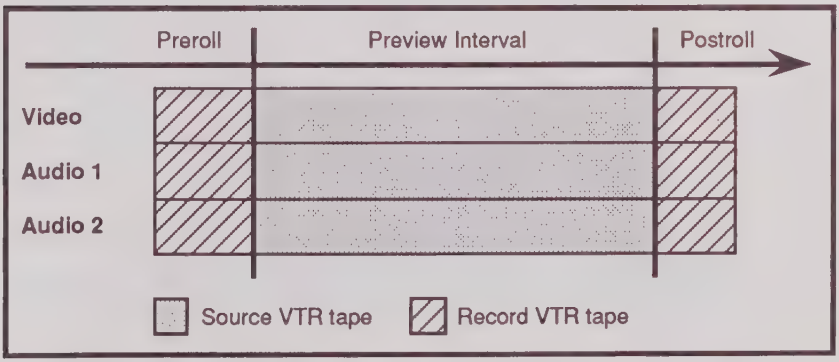


Figure 4-8. Graphic Representation of "Simple" VVV Preview

Figure 4-9 graphically represents a VVV preview of an advanced split edit. During a VVV preview, if you monitor picture and sound through the Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	First, sound from reel 10.
	Second, picture from reel 20.
	Third, sound from reel 30.
Postroll:	Picture and sound off the record tape.

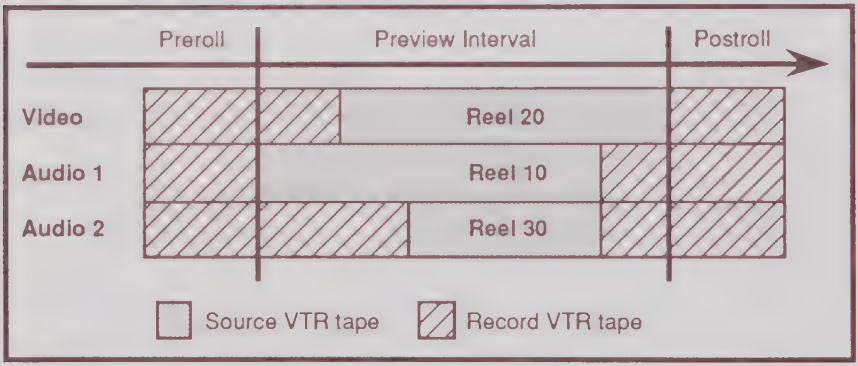


Figure 4-9. Representation of "Advanced" VVV Split Edit Preview

4-27 VBV Preview

VBV, or Video Black Video previews, are used to preview the "black hole" of insert video on Record tape, with Record video on either side of the hole. These preview are useful for matching action, checking audio on in points and out points, and isolating the insert hole.

To perform a VBV preview, press PREVIEW MODES. On ACE 25's Preview Choice menu, press **VBV**.

Figure 4-10 represents a VBV preview of a simple cut. During VBV previews, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	Black.
Postroll:	Picture and sound off the record tape.

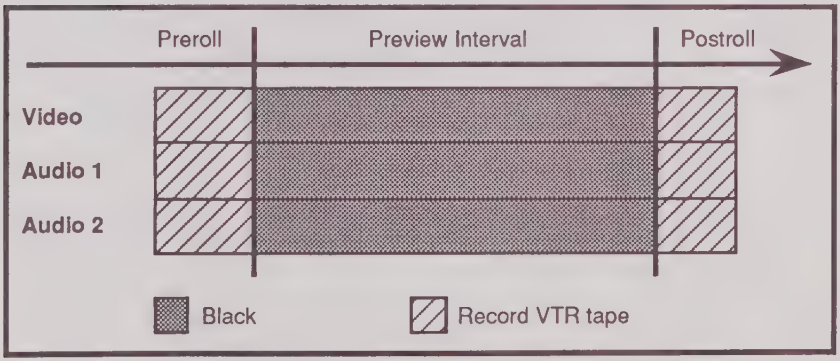


Figure 4-10. Graphic Representation of "Simple" VBV Preview

Figure 4-11 graphically represents a VBV preview of a split edit. Each split in point and out point receives a precise VBV preview. During this type of VBV preview, if you monitor picture and sound through the Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	First, Black (silent) for audio channel 1.
	Second, Video black.
	Third, Black (silent) for audio channel 2.
Postroll:	Picture and sound off the record tape.

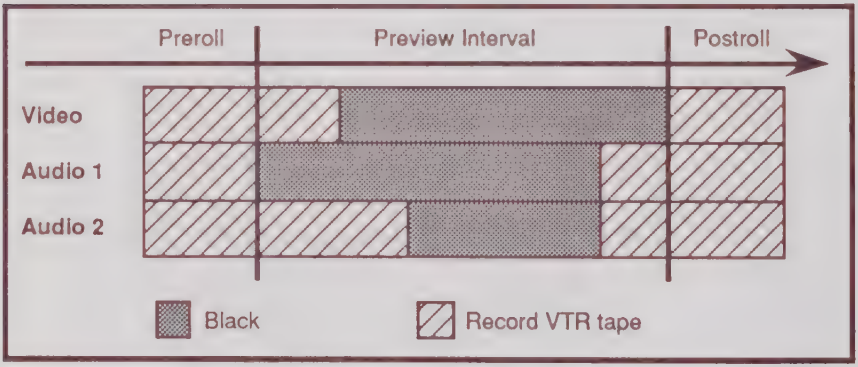


Figure 4-11. Representation of "Advanced" VBV Split Edit Preview

4-28 BVB Preview

BVB, or Black Video Black previews, are used to preview only incoming video to check in points and out points against black. These previews are useful for matching action, checking audio on in points and out points, and isolating the incoming video segment.

To perform a BVB preview, press PREVIEW MODES. On ACE 25's Preview Choice menu, press **BVB**.

Figure 4-12 represents a BVB preview of a simple cut. During BVB previews, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Black leading up to the in point.
Preview Interval:	Picture and sound off incoming source tape.
Postroll:	Black after the out point.

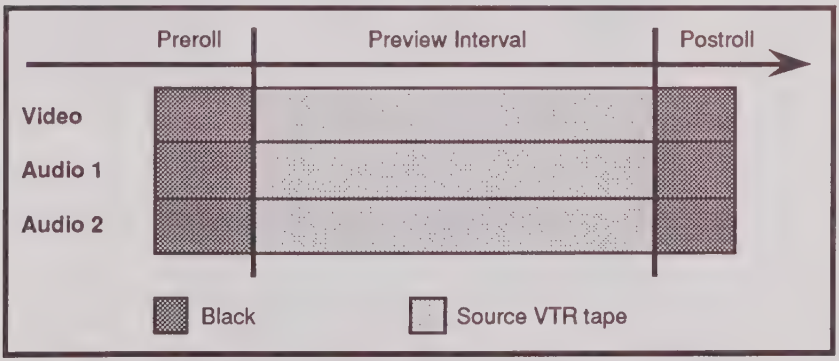


Figure 4-12. Graphic Representation of "Simple" BVB Preview

Figure 4-13 represents a BVB preview of a split edit. Each split in point and out point receives a precise BVB preview. During this type of VBV preview, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Black leading up to each channel's in point.
Preview Interval:	First, sound from reel 10, audio channel 1.
	Second, picture from reel 20.
	Third, sound from reel 30, audio channel 2.
Postroll:	Black after each channel's out point.

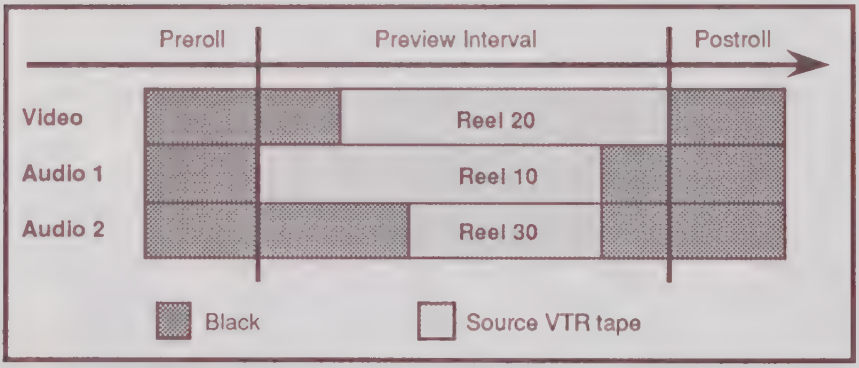


Figure 4-13. Representation of "Advanced" BVB Split Edit Preview

4-29 VV Entrance Only Preview

VV Entrance Only previews are used when a quick check of the Record-to-Source entrance is required, or when a segment is long and a full VVV preview is not required.

To perform a VV Entrance Only preview, press PREVIEW MODES. On ACE 25's Preview Choice menu, press **ENTRY ONLY**.

Figure 4-14 represents an entrance only preview of a simple cut. During VV Entrance Only previews, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	Picture and sound off incoming source tape *only* for a period equal to the preroll time.
Postroll:	Remaining picture and sound off the source tape for the duration of the postroll time.

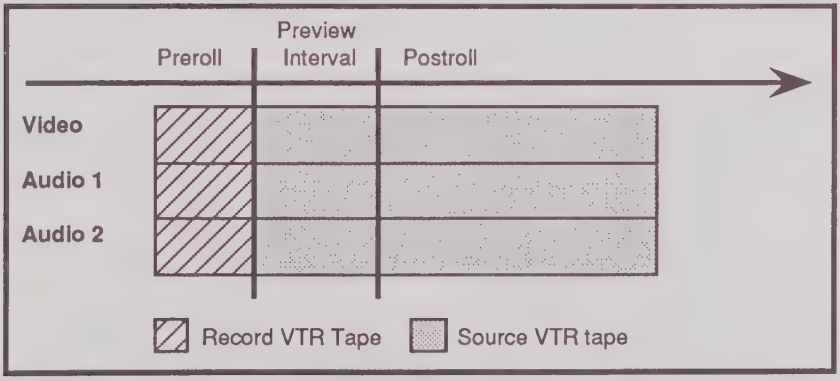


Figure 4-14. Representation of "Simple" VV Entrance Only Preview

Figure 4-15 represents a VV entrance only preview of a split edit. During this type of VV Entrance Only preview, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Picture and sound off the record tape.
Preview Interval:	Picture and sound off incoming source tape. Preroll time is *added* to the latest split entry time in the event, to insure that each split channel is properly previewed.
Postroll:	Remaining picture and sound off the source tape.

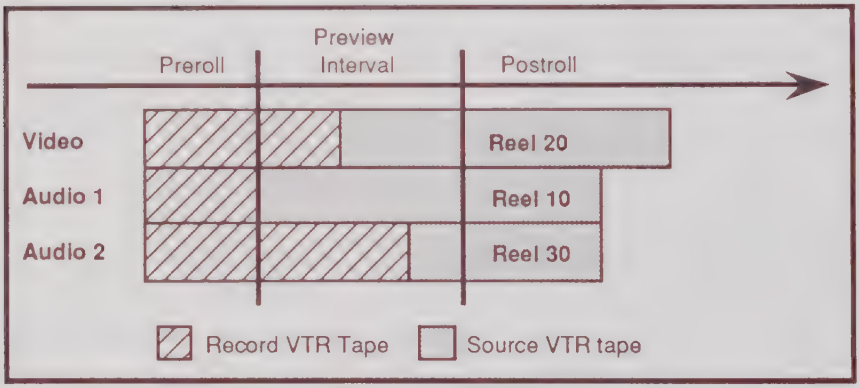


Figure 4-15. Representation of "Advanced" VV Entrance Only Split Preview

Note

If split entry times are separated by long amounts of time, you *may* prefer to use VVV.

Depending on preroll and postroll times, switcher effect may only be partially completed with VV Entrance Only preview.

4-30 VV Exit Only Preview

VV Exit Only previews are used when a quick check of the Source-to-Record exit is required, or when a segment is long and a full VVV preview takes considerable time.

To perform a VV Exit Only preview, press PREVIEW MODES. On ACE 25's Preview Choice menu, press **EXIT ONLY**.

Figure 4-16 represents an exit only preview of a simple cut. During VV Exit Only previews, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Picture and sound off the source tape.
Preview Interval:	Picture and sound off the source tape, leading up to the record out point, *only* for a period equal to the preroll time.
Postroll:	Picture and sound off the record tape.

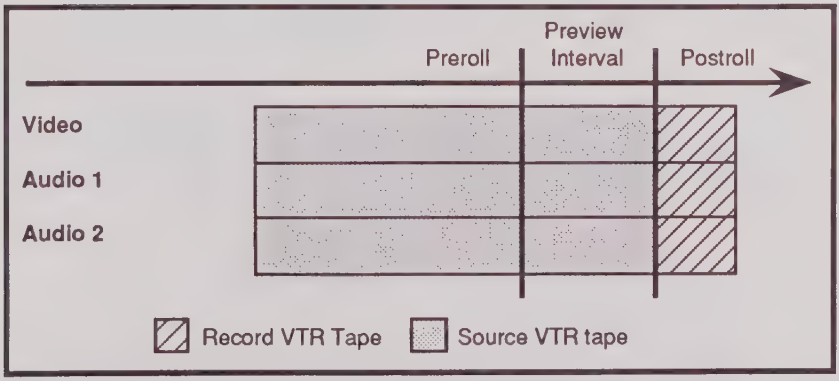


Figure 4-16. Representation of "Simple" VV Exit Only Preview

Figure 4-17 represents a VV exit only preview of a split edit. During this type of VV Exit Only preview, if you monitor picture and sound through Record VTR, you will see and hear:

Preroll:	Picture and sound off the source tape.
Preview Interval:	Picture and sound off the source tape, leading up to the record out point. Preroll time is *subtracted* from the earliest split exit time in the event, to insure that each split exit channel is properly previewed.
Postroll:	Picture and sound off the record tape.

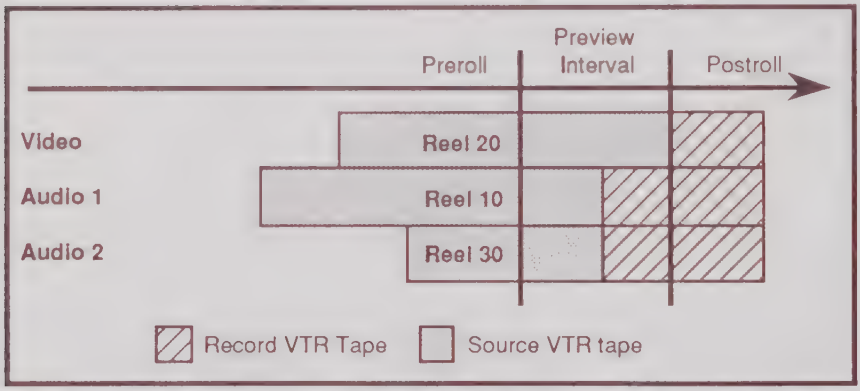


Figure 4-17. Representation of "Advanced" VV Exit Only Split Preview

Note

If split exit times are separated by long amounts of time, you may prefer to use VVV.

Depending on preroll and postroll times, switcher effect may only be partially completed with VV Exit Only preview.

4-31 CHANGING EDIT POINTS

The process of editing programs is a process of constant change, moving and changing edit points and effects to make the edit flow better, the action match, and the audio sound better.

If, after previewing an edit, you think that the edit point should be modified, there are four ways to do this.

- Reposition: With Position Editing mode enabled, simply re-park or re-position VTR at new desired entrance point.
- Re-Mark: In normal Mark-in edit mode, re-mark entry points and exit points by using MARK ENTRY and MARK EXIT keys.
- Re-Set: In normal Set-in edit mode, set-in new timecode numbers from keyboard as in original set procedure.
- Trim: Most commonly used method of changing edit points. Entrance points, exit points, and durations can be trimmed. Using keypad, press + or –, key in desired amount of frames (or timecode), select source or record VTR, and press SET/TRIM ENTRY, SET/TRIM EXIT, or SET/TRIM DUR as required.

  You can also press ALL, then press + or –, key in desired amount of frames (or timecode), then press SET/TRIM ENTRY, or SET/TRIM EXIT as required to trim all transport entrances or exit point.

Following are some simple aesthetic rules regarding trims:

- Trim Source entrance point "+" to make action or audio on incoming source occur earlier in relation to record in point. A "+" source trim "tightens" up an edit, moving incoming action closer to record in point.
- Trim Source entrance point "–" to make action or audio on incoming source to occur later in relation to record in point. A "–" source trim "loosens" up an edit, moving incoming action farther away from the record in point.
- Trim Record entrance point "+" to make edit point occur later in time. Timing of incoming source material in relation to record entry point is not affected, just edit point is moved downstream. If material is already recorded at in point, a "+" trim will "cover up" action.
- Trim a Record entrance point "–" to make edit point occur earlier in time. Timing of incoming source material in relation to record entry point is not affected, just edit point is moved upstream. If material is already recorded at in point, a "–" trim will "uncover" action.

4-32 PERFORMING/RECORDING THE EDIT

To record the edit on tape, press EDIT and PREVIEW simultaneously. This is also called PERFORM edit.

The ACE 25 tells all machines involved in the edit to cue back to the pre-roll point. (Usually preroll is 5 seconds before entry point. Preroll is adjustable in the System Initialization area, in **SYSTEM OPTIONS**). Then, all machines roll forward and the record VTR drops into record at the edit point.

The machines continue to roll for the length of the edit interval, and through the post-roll interval. (Usually postroll is 1 second. Postroll is adjustable in the System Initialization area, in **SYSTEM OPTIONS**).

Note

Any edit being recorded can be stopped in progress by pressing ALL STOP. This causes all VTRs to stop, and edit will not tag, update, or go into EDL.

If the edit has out points it is considered a "closed" edit. At the conclusion, a closed "edit" automatically enters the EDL, edit points "Tag," and the event number updates. If the edit does not have out points it is considered "open-ended." You can end an open-ended edit two ways:

- Press ALL STOP. Edit will not tag, update event number, or go into EDL.
- Press STOP. Edit will tag, update event number, and go into EDL.

Note

See paragraph 6-6 for a discussion of Tags.

See paragraph 4-35 for further discussion of open-ended edits.

4-33 REPLAYING THE EDIT

Once you have recorded the edit, you can review the edit by pressing REPLAY.

When REPLAY is pressed, ACE 25 cues the Record VTR back to the pre-roll point and rolls through material just recorded, continuing through to the post-roll point.

Note

Only last edit recorded can be replayed using REPLAY. To replay edits previously recorded, manually rewind and play record VTR at the desired edit.

4-34 RECALLING THE EDIT

To try an edit again, recall the edit just recorded from EDL and place it back in ECL. Press HOME, then **RECALL EDIT**. All numbers involved in the edit are recalled into ECL. You can re-perform or change the edit. When performed again, this edit goes back into the list with the same edit number, replacing the recalled edit.

You can re-record an edit, other than the edit just recorded, by recalling it from the EDL. Press EDL and scroll the Edit Decision List with the rotary knob until the edit you wish to re-perform is highlighted. Then, press HOME and **RECALL EDIT**. All numbers involved in the edit are recalled into the ECL. You can re-perform or change the edit. When performed again, this edit goes back into the list with the same edit number, replacing the recalled edit.

4-35 OPEN-ENDED EDITS

An open-ended edit is one in which the exit point (out point) is not preselected (marked or set). This is a very common editing procedure that saves a great deal of time.

The following is a simple procedure for setting up and terminating an open-ended cut edit:

1. Select the Record VTR and select an entry point only, using Position, Mark-in, or Set-in editing.

2. Select the Source VTR, and select an entry point only, using Position, Mark-in, or Set-in editing.

3. Press PERFORM edit (EDIT and PREVIEW simultaneously) to start the edit.

4. Press STOP to end the edit. (Usually you let the machines roll a few frames beyond the precise exit point, to give yourself the latitude to trim back into the edit for the next entry point.) The system marks the edit out point, updates time values, transfers edit data into EDL, updates ECL to the next edit number, and tags the edit (source and record out points are loaded as new in points for the next edit.)

   If you press ALL STOP, the system performs a clean out edit but edit data is not updated, tagged, or entered into EDL. ALLSTOP allows you to stop down during the edit interval, make changes, and re-perform the same edit.

4-36 INSERT EDITS

Insert editing permits three kinds of edits:

- "Both" edits, which include video channel and 1 or more audio channels. This edit type appears on screen as:
  - "V12" for video plus audio 1 and audio 2
  - "V1_" for video plus audio 1
  - "V_2" for video plus audio 2
- "Video Only" edits, which leave audio track(s) intact while adding visuals, such as cutting to music or adding pictures to narration. This edit type appears on screen as "V__"
- "Audio Only" edits, which leave video track intact while adding audio on 1 or more channels. This edit type appears on screen as:
  - "_1_" for audio Channel 1 only
  - "__2" for audio Channel 2 only
  - "_12" for audio Channel 1 and Channel 2 only

All three kinds of insert edits are set up in essentially the same way, using the channel "enable" switches V, A1, and A2. These switches are located in the upper left hand corner of the keyboard—the mode selection area—and can be used in any combination. For example, A1 may be used for narration and A2 for music.

Choose edit points and enable the required audio and video channels just as you would for any other edit.

1. Press V to enable or disable recording of video. Note that V toggles on or off on the CRT in both ECL and transport status areas.

2. Press A1 to enable or disable recording of audio channel 1. Note that A1 toggles on or off on the CRT in both ECL and transport status areas.

3. Press A2 to enable or disable recording of audio channel 2. Note that A2 toggles on or off on the CRT in both ECL and transport status areas.

Note

In Assemble editing mode, you can only perform V12 edits.

4-37 SPLIT EDITS

A split edit is one in which the video and audio material have different entry or exit points. Commonly, audio precedes video, or video precedes audio at the entry point. Setting up a split edit can often allow you to do complex edits in one pass rather than going back and doing audio/video only edits.

ACE 25 can:

- Split both entry points and exit points.
- Split channels from different sources in the same edit.
- Cut one channel and dissolve another in the same split.

To set up a split edit:

1. Set up the initial effect, e.g., press CUT, A.
2. Press SPLIT. A second line is added to ECL with no mode selected.
3. Press V, A1, or A2 (or any two in combination) to split video, audio 1, or audio 2 *away* from the first line onto the second line. With splits, you are essentially creating a separate timeline for another channel.
4. Load entry and exit times for each line in the split.

Pressing SPLIT again causes a third split edit line to appear. Select a mode for the split (V, A1, or A2) and mark or set entry times. This allows for separate edit times for both audio channels and video. Splits can be used in any kind of edit, including dissolves and keys.

The following paragraphs give examples on how to set up a split where video leads audio at the entry point, and where audio leads video at the entry point. Examples are also given for trimming individual lines of a split edit and all lines of a split edit using **SPLIT SLIDE**.

4-38 Video Leads Audio Split

A split edit where video leads audio adds interest to your edit. For example, in an interview where the host asks a question of his guest, and you want to look at the guest while he is being asked the question, cut to the guest's video and delay cutting to audio until the question is finished. This is shown graphically in Figure 4-18.

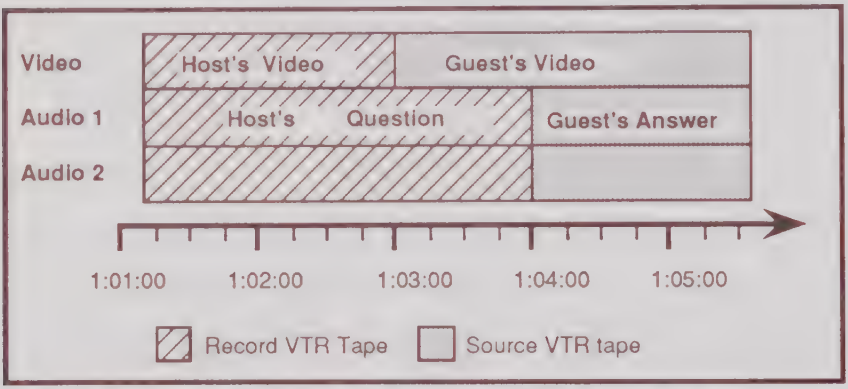


Figure 4-18. Representation of Video Leads Audio Split

To set up this edit, assume that the host's question is already recorded. The guest's video and audio is on reel 10 mounted on the A machine.

1. Mark a record entry point at the end of the host's question. Press R, MARK ENTRY.

2. Press CUT, A. Play source A to the point where the guest's answer begins, and press MARK ENTRY. In this example, source A entry time is 1:00:20:00.

3. Now set up the split. Press SPLIT, then press VIDEO. This splits the active edit line into two lines (V__ and _12). Note that the video split line is undefined.

4. To make video lead audio, press R and use keypad and SET/TRIM ENTRY to set in the record video entry point prior to the audio entry. You can also position the record VTR where you want video to begin recording, and press MARK ENTRY.

5. Leave the edit open-ended, and press PREVIEW or PERFORM edit.

   In this example, video leads audio by one second. This is the amount of time that we look at the guest while hearing the host's question. Figure 4-19 shows the CRT display with the edit ready to perform.

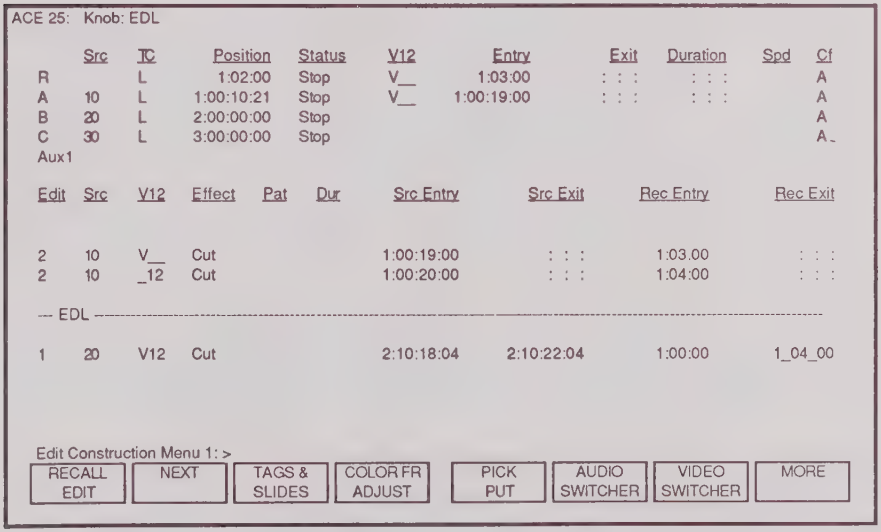

ACE 25: Knob: EDL
Src TC Position Status V12 Entry Exit Duration Spd Cf
R L 1:02:00 Stop V__ 1:03:00 : : : : : : A
A 10 L 1:00:10:21 Stop V__ 1:00:19:00 : : : : : : A
B 20 L 2:00:00:00 Stop A
C 30 L 3:00:00:00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
2 10 V__ Cut 1:00:19:00 : : : 1:03.00 : : :
2 10 _12 Cut 1:00:20:00 : : : 1:04:00 : : :
--- EDL ---
1 20 V12 Cut 2:10:18:04 2:10:22:04 1:00:00 1_04_00
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

Figure 4-19. Open-ended Video Leads Audio Split

Split edit entry and exit times can also be trimmed. Remember that a highlighted line in ECL indicates that line is active. Use ↑ (ARROW UP) and ↓ (ARROW DOWN) to scroll ECL to the split line to be trimmed. Select either source or record VTRs, and trim in the normal manner.

4-39 Audio Leads Video Split

A split edit where audio leads video is another common technique for adding drama and interest to your show.

For example, audio and video of a reporter talking about a fire is taped on VTR B, with audio on channel 1. Audio and video of fire trucks arriving is taped on VTR A, with audio on channel 2. This material is edited so that we hear the reporter talking over pictures of the fire, see the fire trucks arrive, then see the reporter saying his tag line "...reporting from the scene, this is ..." A graphic representation is shown in Figure 4-20.

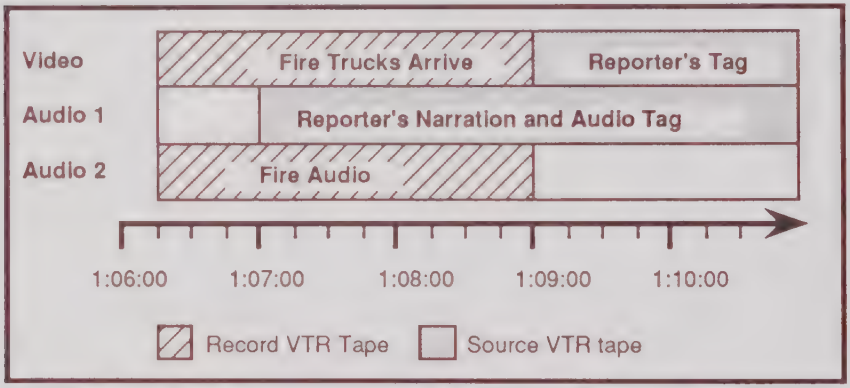


Figure 4-20. Representation of Audio Leads Video Split

To set up this edit, assume that audio and video of the fire is already recorded. The reporter's video and audio is on reel 20 on VTR B.

1. Mark a record entry point just after the fire trucks arrive. Press R, MARK ENTRY.

2. Press CUT, B. Play the source B machine to the point where the reporter's tag line begins, and press MARK ENTRY.

3. Now set up the split. Press SPLIT, then press AUDIO 1. This splits the active edit line into two lines (V__ and _1_). Note that the audio split line is undefined.

4. To make audio lead video, Press R and use keypad and SET/TRIM ENTRY to set in the record audio entry point prior to the video entry. You can also position the record VTR where you want audio to begin recording, and press MARK ENTRY.

5. Leave the edit open-ended, and press PREVIEW or PERFORM edit.

In this example, audio leads video by two seconds. This is the amount of time that we hear the reporter while watching video of the fire. Figure 4-21 shows the CRT display with the edit ready to perform.

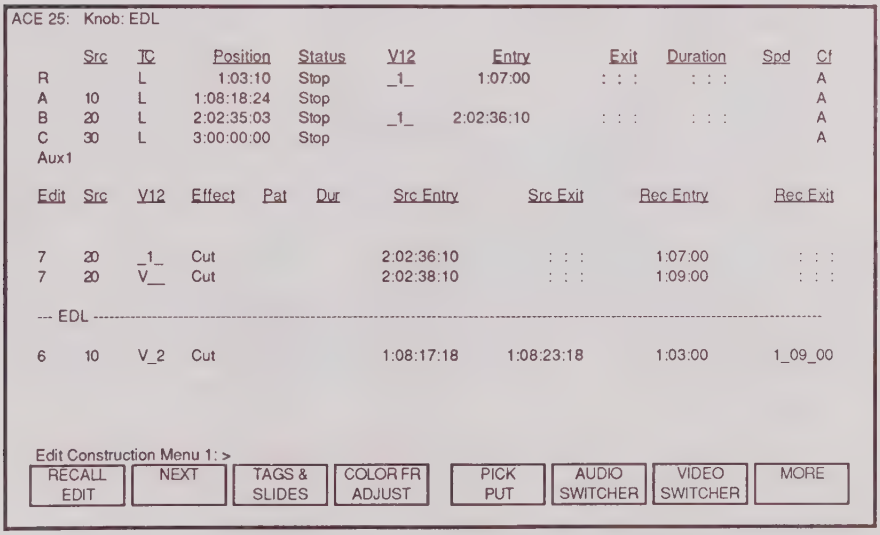

ACE 25: Knob: EDL
Src TC Position Status V12 Entry Exit Duration Spd Cf
R L 1:03:10 Stop _1_ 1:07:00 : : : : : : A
A 10 L 1:08:18:24 Stop A
B 20 L 2:02:35:03 Stop _1_ 2:02:36:10 : : : : : : A
C 30 L 3:00:00:00 Stop A
Aux1
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
7 20 _1_ Cut 2:02:36:10 : : : 1:07:00 : : :
7 20 V__ Cut 2:02:38:10 : : : 1:09:00 : : :
--- EDL ---
6 10 V_2 Cut 1:08:17:18 1:08:23:18 1:03:00 1_09_00
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

Figure 4-21. Open-ended Audio Leads Video Split

Remember that split edit entry and exit times can be trimmed easily. Highlight either the audio or video split line using ↑ (ARROW UP) and ↓ (ARROW DOWN), select either source or record VTRs, and trim in the normal manner.

4-40 Split Slide

The split slide function allows you to trim all lines of a split edit without losing their relative positions or offsets. Essentially you are trimming *all* record or source entry points equally and moving them in tandem, earlier or later in time.

To use Split Slide:

1. With a split edit set up, press HOME, then **TAGS & SLIDES**. The Tag Function menu appears:

2. Select either Record VTR or Source VTR.

3. Press + on the keypad to move all split entry points forward, or – to move entry points backward.

4. Enter the desired length of time on the keypad.

5. Press **SPLIT SLIDE** to make the move.

To move all split entry points to a specific time, use the keypad to enter the time *without* first pressing + or –. Then press **SPLIT SLIDE** to make the adjustment.

Figure 4-22 shows an open-ended split edit. To slide all record times forward eight frames, press HOME, **TAGS & SLIDES**, R, +, 8, **SPLIT SLIDE**.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
5	10	_1_	Cut	1:00:00:00	: : :	4:00:00:00	: : :
5	20	V__	Cut	2:00:02:00	: : :	4:00:02:00	: : :
5	30	__2	Cut	3:00:04:00	: : :	4:00:04:00	: : :

Figure 4-22. Sample Split Edit Before Split Slide

Figure 4-23 shows the split after the slide. Each split record entry time moved forward eight frames.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
5	10	_1_	Cut	1:00:00:00	: : :	4:00:00:08	: : :
5	20	V__	Cut	2:00:02:00	: : :	4:00:02:08	: : :
5	30	__2	Cut	3:00:04:00	: : :	4:00:04:08	: : :

Figure 4-23. Sample Split After Record Split Slide

4-41 SLOW MOTION EDITING

The ACE 25 performs slow motion edits, provided that it is connected to source VTRs capable of slow motion operations. There are three ways to set up slow motion edits:

- Set-in speed
- Fit and Fill (Calculate)
- Mark speed

You can have a slow motion edit in conjunction with all ACE 25 effects: CUTS, DISSOLVES, WIPES, and KEYS. You can also have multiple machines in slow motion, for example, dissolving from VTR A at 50% speed to VTR B at 125% speed.

Generally, the range for all VTRs capable of slow motion is –100% reverse to +300% forward speed. In all cases, a slow motion edit using 0% speed will edit to a still frame.

Note

ACE 25 is capable of performing programmed slow motion edits with source VTR playing *one* speed throughout the edit. Programmed variable speed slow motion edits with multiple speeds are not possible. However, using Manual Modes, speed of VTR can be varied during edit. See paragraph 7-28 for details on Manual Transport Control.

4-42 Set-in Speed Slow Motion Editing

To set up a slow motion edit using the Set-in speed method, select the play speed of the source machine using the ACE 25's numeric keypad. This example uses a cut to VTR A, but you may use any ACE 25 effect and any VTR on line capable of slow motion.

1. Select the source VTR and set up the slow motion edit. Press CUT, A.

2. Mark-in (MARK ENTRY) or Set-in (KEYPAD + SET/TRIM ENTRY) the entry point for the slow motion sequence on both source and record.

3. Press HOME, **MORE** to bring up the Edit Construction Menu 2.

Edit Construction Menu 2: >

EDIT NUMBER	DELETE LINE	FILL	DISPLAY CHANGE	TRANSPRT	REEL NUMBER	SLO MO SPEED	MORE

4. Use the keypad to enter the desired source slow motion speed. This number represents the percentage of full speed playback at which the source machine moves. A minus sign can be entered in front of the number for reverse slow motion speeds.

5. Press **SLO MO SPEED** on Edit Construction Menu 2.

   The speed is displayed in the "Spd" column in the transport status area, and a subscript "s" is displayed next to the source entry timecode in the ECL area of the menu. See Figure 4-24. In this example 50% speed was chosen.

ACE 25: Knob: Jog

	Src	TC	Position	Status	V12	Entry	Exit	Duration	Spd	Cf
R		L	4:00:05:24	Stop	V12	4:00:20:00	4:00:25:00	5:00		A
A	10	L	1:00:10:21	Stop	V12	1:00:20:00	1-00-25-00	5-00	50	A
B	20	L	2:00:00:00	Stop						A
C	30	L	3:00:00:00	Stop						A
Aux1										

Edit	Src	V12	Effect	Pat	Dur	Src Entry	Src Exit	Rec Entry	Rec Exit
5	10	V12	Cut			1:00:20:00s	1-00-25-00	4:00:20:00	4:00:25:00
--- EDL ---									
1	10	V12	Cut			1:00:00:00	1-00-05-00	4:00:00:00	4:00:05:00
2	10	V12	Cut			1:00:05:00	1-00-10-00	4:00:05:00	4:00:10:00
3	10	V12	Cut			1:00:10:00	1-00-15-00	4:00:10:00	4:00:15:00
4	10	V12	Cut			1:00:15:00	1-00-20-00	4:00:15:00	4:00:20:00

Edit Construction Menu 1: >

RECALL EDIT	NEXT	TAGS & SLIDES	COLOR FR ADJUST	PICK PUT	AUDIO SWITCHER	VIDEO SWITCHER	MORE

Figure 4-24. Sample Slow Motion Edit Screen

6. Press PREVIEW or PERFORM (EDIT + PREVIEW) to preview or record the slow motion edit.

Note

Entering speed percentage which exceeds slow motion range of individual VTR results in error message. Attempting to enter slow motion speed for Record VTR also results in error message.

7. When the edit is finished, the source machine remains at the last slow motion speed used, until the slow motion speed is cleared or the speed is changed.

There are two methods available to turn off slow motion:

- Press CLEAR on keypad, followed by the **SLO MO SPEED** to clear number in speed column and return VTR to 100% speed.
- Press 100 on keypad, followed by **SLO MO SPEED** to clear "Spd" column and return VTR to 100% speed.

4-43 Fit and Fill Slow Motion Editing

The Fit and Fill method allows a segment of source video of a given length to fit into a space of *different* length on the record tape. The ACE 25 calculates the speed at which the machine supplying source video must run.

Set up a Fit and Fill slow motion edit as follows:

1. Select the source VTR and set up the slow motion edit. Press CUT, A.

2. Press R. Mark-in or Set-in both *entry* and *exit* points for the slow motion sequence on the record VTR. This establishes the "hole" on the record tape that the material from the source machine fills.

3. Press A. Mark-in or Set-in both *entry* and *exit* points for the slow motion sequence on the source VTR. This establishes the video segment that fills the hole on the record machine.

4. When you set-in or mark-in the source exit, the Conflict menu, shown below, appears on screen. This is normal. ACE 25 displays the Conflict menu automatically whenever an edit with a record duration different from the source duration is built.

Src vs Rec Duration Conflict. Select Option: >

RECALC SRC IN	RECALC SRC OUT	RECALC REC IN	RECALC REC OUT	RECALC SPEED			CANCEL

5. Press **RECALC SPEED**. The ACE 25 calculates the source play speed to fit the source material into the hole on the record tape. This resolves the conflict and the Conflict menu clears from the screen. The computed speed is displayed in the "Spd" column.

6. Press PREVIEW or PERFORM to preview or record the edit.

7. Clear slow motion speeds by pressing CLEAR, followed by **SLO MO SPEED**.

4-44 Mark Speed Slow Motion Editing

The Mark speed method of constructing a slow motion edit allows you to watch the monitor, and visually mark the speed desired for the source slow motion playback.

Set up a Mark Speed slow motion edit as follows:

1. Select the source VTR and set up the slow motion edit. Press CUT, A.
2. Press HOME, MORE, to bring up Edit Construction Menu 2.
3. Put the source VTR in variable play. Press VAR.
4. While watching the monitor, adjust the speed of the source machine by moving the rotary knob forward or reverse until the desired slow motion speed is reached. Press **SLO MO SPEED**. You can mark speed as many times as required.
5. ACE 25 marks in the speed at which the transport is moving, and displays speed in the "Spd" column on the CRT.
6. Press PREVIEW or PERFORM edit to preview or record the slow motion edit.
7. Clear slow motion speeds by pressing CLEAR, then **SLO MO SPEED**.

4-45 CALCULATED NUMBERS AND CONFLICTS

A calculated number is one calculated by ACE 25 rather than one loaded in by the Editor. If you load an entry point and a duration, the ACE 25 calculates the exit point. You can recognize a calculated point because is has underscores instead of colons.

If you try to trim a calculated point, the ACE 25 indicates that one of the other edit points must change in order to keep the same edit duration. ACE 25 indicates this "conflict" by reversing video of the edit point in question and showing what the new edit point will be if the newly loaded trim is made.

ACE 25 will display the Conflict menu shown below when it detects a conflict.

On the Conflict menu, there are five choices for resolving a conflict, and one for canceling a change.

- **RECALC SRC IN** recalculates source entry point, making source entry "soft." The number entered that caused the conflict is accepted.
- **RECALC SRC OUT** recalculates the source exit point, making source exit "soft." The number entered that caused the conflict is accepted.
- **RECALC REC IN** recalculates the record entry point, making record entry "soft." The number that was set-in, marked-in, or trimmed that caused the conflict is accepted.
- **RECALC REC OUT** recalculates the record exit point, making record exit "soft." The number that was set-in, marked-in, or trimmed that caused the conflict is accepted.
- **RECALC SPEED** causes Fit and Fill. Speed of source VTR is recalculated to fit "hole" on record VTR.
- **CANCEL** aborts changes and returns menu to state prior to conflict.

Following is an example of work withthe Conflict menu.

1. Press CUT, A to set up the edit.

2. Press R, MARK IN, A, MARK IN to mark entry points on source and record VTRs.

3. Press R, 5:00, SET/TRIM DUR to place a 5 second duration on the Record VTR. Notice that A's exit and duration is calculated.

4. Press A, 6:00, SET/TRIM DUR to place a conflicting duration on the Source VTR. Notice that the Conflict menu appears, and that A's exit point appears in reverse video in ECL, indicating location of conflict.

5. Press **RECALC REC OUT**. The Record VTR's exit point is recalculated and becomes "soft." The 6 second duration on A is accepted.

6. Repeat steps 1 through 4 several times. At step 5, press a different Conflict menu soft key each time, including **RECALC SPEED**, and note which entry or exit point is recalculated to resolve the conflict. Note also that the speed of the playback source is recalculated when **RECALC SPEED** is pressed, and the source entry point in ECL gets a small "s" indicating slow motion.

The purpose of the Conflict menu is to give you the choice in conflict resolution, rather than letting the computer decide on its own.

While the Conflict menu is displayed, you have another option in addition to those provided by the soft keys. If the source exit point (the point causing the conflict in this example) is in fact the point to be loaded to establish the R-VTR's duration, press MARK EXIT again, or SET/TRIM EXIT again, or SET/TRIM DUR again, (whichever method used to load the number), and ACE 25 resolves the conflict by forcing the system to accept the new time.

4-46 PICK/PUT

The Pick/Put menu, shown below, has three primary functions:

- Copy edit timecodes into keyboard register from EDL, then place timecodes in ECL.
- Copy GPI trigger times into ECL.
- Copy complete EDL edit back into ECL and assign new edit number.

In addition, through the Pick/Put menu, you can access the **FIND** timecode number function to easily search the EDL. See paragraph 5-3 for an explanation of **FIND**.

To use Pick/Put, proceed as follows:

Note

There must be edits in EDL, otherwise error message appears on screen.

1. Put edits in the list using **NEXT**, perform a series of edits, or read an EDL from disk. See paragraph 5-11 for details on reading an EDL from disk.

2. Press HOME, **PICK PUT** to call the Pick/Put menu.

3. Press EDL and use the rotary knob to scroll the list until the edit containing the timecode, GPI trigger, or edit to be copied is highlighted. You can pick from *any* edit in the EDL.

4. Press the appropriate soft key as required:

- **SOURCE ENTRY** brings source entry timecode of highlighted edit into keyboard register.
- **SOURCE EXIT** brings source exit timecode of highlighted edit into keyboard register.
- **RECORD ENTRY** brings record entry timecode of highlighted edit into keyboard register.
- **RECORD EXIT** brings record exit timecode of highlighted edit into keyboard register.
- **COPY GPI** copies highlighted GPI trigger line back into ECL, making this GPI a GPI for current edit. **COPY GPI** saves many keystrokes if you use same GPI over and over.
- **COPY EDIT** copies highlighted edit back into ECL, making this edit the current edit with a new event number. **COPY EDIT** is very useful when you want to try different versions of same edit and save every different version.
- **FIND** locates specific source or record timecode number in EDL. See paragraph 5-3 for an explanation of **FIND**.

4-47 Working with Pick/Put

When working with Pick/Put, **COPY GPI** and **COPY EDIT** return data back to ECL. However, picking source or record points only puts data back into keyboard register. At that point, you must put data in another location.

Following are several examples of how to work with Pick/Put timecodes. Examples assume an EDL edit is highlighted.

- Pick a record-entry and put it in ECL as A entry:

  Press **PICK PUT**, **RECORD ENTRY**, A, SET/TRIM ENTRY

- Pick a record-exit and put it in ECL as Record entry:

  Press **PICK PUT**, **RECORD EXIT**, R, SET/TRIM ENTRY

- Pick a source-exit and put it in ECL as C entry:

  Press **PICK PUT**, **SOURCE EXIT**, C, SET/TRIM ENTRY

- Pick a source entry, add 25 frames, and put it in ECL as A entry:

  Press **PICK PUT**, **SOURCE ENTRY**, +, 25, A, SET/TRIM ENTRY

- Pick a record entry from EDL, add VTR B's entry from ECL, and put number in ECL as VTR C's exit:

  Press **PICK PUT**, **RECORD ENTRY**, +, B, SET/TRIM ENTRY, C, SET/TRIM EXIT

- Pick source exit from EDL, subtract another "picked" source entry from EDL on another line, and put number in ECL as record entry:

  Press **PICK PUT**, **SOURCE EXIT**, –, (Scroll) **SOURCE ENTRY**, R, SET/TRIM ENTRY

SECTION 5

BASIC LIST MANAGEMENT, FILING, AND AUTO ASSEMBLY

5-1 INTRODUCTION

The following items are discussed in this section:

- Basic list management
- EDL Find
- Next
- Recalling an edit
- EDL Filing
- Print screen function
- Error reporting
- System crash identification
- Block marking
- Auto-assembly
- Deleting an edit
- Record indicators
- Comments keyboard

5-2 BASIC LIST MANAGEMENT

Basic list management includes common manipulations of single edits in the list during an edit session such as adding, recalling, replacing, and deleting. Advanced list management functions which involve groups of edits and manipulations commonly done while preparing a list for an on-line session are found in Section 7 of this manual, "Advanced List Management and Advanced Edit Modes."

ACE 25 has an EDL capacity of 1000 lines, fully protected by battery-backup. Refer to paragraph 2-89 for details.

If your EDL is at the 1000 line limit and you attempt to enter another edit, the error message

Out of memory

appears on the screen. At this point, file your edits on disk to clear the EDL memory. Using the **RENUMBER** function, the EDL can have event numbers greater than 1000, but the actual number of lines cannot exceed 1000.

A cut takes up 1 line. A dissolve takes up 2 lines. Many key types take up 2 or more lines. A comment above any edit also takes up 1 line of memory.

Press EDL. Note that the EDL title line brightens, indicating that you are working in the EDL area, *not* the ECL area.

Press HOME. Note that the ECL title line brightens, indicating that you are working in the ECL area, *not* the EDL area. The bright indication provides an easy way to avoid confusion when working in the two different areas.

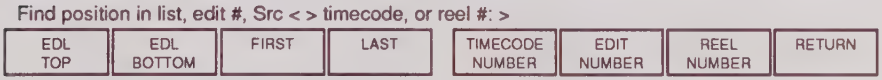
5-3 EDL FIND FEATURE

The EDL **FIND** feature is a very useful tool for locating specific items in the list such as timecode numbers, events, list locations, and specific reels. The Find menu is accessed from two locations:

- Edit Construction Menu 1: Press **PICK PUT, FIND.**
- EDL/List Management Menu 1: Press EDL, **FIND.**

5-4 Find Menu

Press EDL, then **FIND** to bring up the Find menu.



The following functions are available from the Find menu:

- To bring top of list to highlighted line, press **EDL TOP.**
- To bring bottom of list to active line, press **EDL BOTTOM.**
- To bring first edit in marked group to active line, press **FIRST.** See paragraph 5-22 for information about marking a block of edits.
- To bring last edit in marked group of edits to highlighted position, press **LAST.**
- To find specific edit number, use keypad to load edit number desired, and press **EDIT NUMBER.**
- To find specific reel number, use keypad to load reel number desired, and press **REEL NUMBER.** Pressing **REEL NUMBER** again continues search down list for further occurrences of desired reel number.

5-5 Find Timecode in EDL, "Load Position"

Perhaps the most useful feature on the Find menu is **TIMECODE NUMBER**. This soft key is especially handy in the following situations:

- When—while playing source tape—you need to know if a shot at which you stopped was already used in the program.
- When—while playing record tape and director asks for a change in the show—you need to find event number where record machine is parked, to change event easily.

TIMECODE NUMBER works in conjunction with a special feature called "Load Position." This feature allows you to load the timecode *position* of any transport into the keyboard register, *without* typing the number on the keypad, and without overwriting a marked entry or exit.

To use Load Position, select any VTR, and press SHIFT + MARK ENTRY. The transport position of the selected VTR is loaded into the keyboard register.

To find if that number has been used in the EDL, follow this procedure:

1. Select the record or a source VTR.

2. Load "Position" or key in the desired timecode number.

3. Press EDL, **FIND**, and **TIMECODE NUMBER**. If the timecode number is located, that specific edit jumps to the highlighted line. If you press **TIMECODE NUMBER** again, ACE 25 looks farther down the EDL for the next occurrence of the number. When the bottom of the EDL is reached, the search circles back to the top of the list again.

ACE 25 will search the list for source or record timecodes, depending on what source select hard key you press. Note that in the status line above the soft keys, the record VTR or the reel number that you select on the source VTR will appear in the < > brackets.

5-6 ADDING AN EDIT TO THE EDL, "NEXT"

The **NEXT** soft key provides an easy way to add an edit to the EDL without using PERFORM EDIT. Uses of **NEXT** include

- loading edit into list to be performed later,
- loading several edits into list to be auto-assembled as group,
- recalling edit *already* performed,
- adding comment, and
- replacing edit in EDL.

Add an edit into the EDL using **NEXT** as follows:

1. Set up an edit in the ECL and ensure that the edit is "closed." Open-ended edits cannot be placed in the EDL.

2. Press EDL and use the rotary knob to highlight the edit you want to "precede" the new edit that you are adding.

3. Press **NEXT**.

The new edit will be added into the list. Edits placed into the list using **NEXT** are not flagged with an "R" (for "Recorded") after the event number. Edits which have been performed are flagged with an "R."

Note

If Auto Sort is off, NEXT and PERFORM will always put edit into list after highlighted edit.

If Auto Sort is on, NEXT and PERFORM will put edit into list where it chronologically belongs according to record time.

5-7 RECALLING AN EDIT FROM THE EDL

To recall an edit from the EDL for re-edit or modification:

1. Press EDL and use the rotary knob to highlight the edit you want to recall.

2. Press HOME, **RECALL EDIT**. This reloads the highlighted event into the ECL and transport status area. The event number is also reloaded. Now you can make any changes required. Note that the CRT top line displays

   Recalled

   to indicate a recalled edit is present in ECL.

3. After you have made your changes, perform the new edit or press **NEXT** to reload the edit into the EDL.

When you reload or re-perform this changed edit, it automatically replaces the previous version with the same edit number, in the same EDL location where it originated.

5-8 EDL FILES

At the end of every edit session, store your edit decision list on disk. At the beginning of the next session you may want to recall that same list or another previously stored list. You may want to print a hard copy of the EDL or transmit the EDL from ACE 25 to another editing system. All of these capabilities are included within ACE 25's EDL filing system.

ACE 25's EDL filing system permits you to store on a file disk *all* data pertaining to an edit or to a group of edits. In addition to event numbers and edit points, you can store comments, all audio information, and all effects information regarding the edits.

Two types of EDL files are used: SMPTE files and CMX files. The following paragraphs discuss the File I/O (Input/Output) display and detail all procedures available with EDL Files:

- Write EDL files to disk
- Read EDL files from disk
- Remove EDL files from disk
- Print EDL files to printer
- Copy EDL files to new file name
- Transmit EDL files to another system
- Receive EDL files from another system

5-9 EDL File I/O Display

The screen display for EDL files is very similar to that for Configuration Files. Press EDL to bring up the EDL/List Management Menu 1:

EDL/List Management Menu 1: >

MARK FIRST	MARK LAST	CLEAN TAILS	RIPPLE	SLIDE	FILE I/O	FIND	MORE

Press **FILE I/O** to access the File I/O function choice menu:

Press **READ** to call up a sample File I/O "Read" screen. See Figure 5-1.

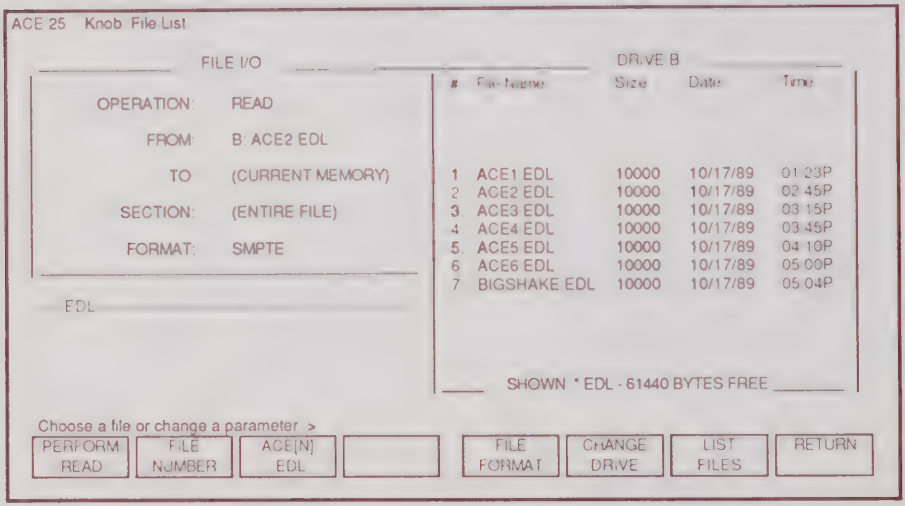


Figure 5-1. EDL File I/O "Read" Screen

Note

The term "PERFORM" in PERFORM READ soft key always reflects operation selected on File I/O Choice menu. If "READ" is selected, soft key displays PERFORM READ; if "REMOVE" is selected, soft key displays PERFORM REMOVE; etc.

The window overlaying the left side of the screen reflects the transaction being built, with the highlight moving to show what is being entered. The visual emphasis in this window is on simplicity, permitting the editor to verify all five parameters of the requested filing procedure at a glance.

Table 5-1 describes the functions of headings on the left side of the File I/O window.

Table 5-1. File I/O Window Headings

Heading	Function
OPERATION	Verifies action requested (Read, Write, etc.).
FROM	Shows source for transaction: current memory is source for "Writing"; files on disk are source for "Reading"; etc.
TO	Displays destination of operation: file on disk is destination for "Writing"; printer is destination for "Printing"; etc.
SECTION	Displays portion of EDL on which operation is performed. SECTION can be One, Group, or All.
FORMAT	Displays format of EDL file to be read, written, removed, etc. FORMAT can be SMPTE or CMX.

The right-hand window shows the directory list as read in from disk and sorted. Name, size, date, and time are displayed for each file. The rotary knob scrolls files up and down in this window.

5-10 Write EDL Files

Use the following procedure to write EDL files on the disk:

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **WRITE** on the File I/O Function Choice menu to access the EDL File I/O "Write" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Write" operation (refer to Figure 5-1), "FROM" source is current memory (EDL in RAM), and "TO" destination is requested file name to be written on disk.**
- **PERFORM WRITE verifies requested action.**

3. Select any one of the following four methods to write an EDL file:

Perform Write — Using the knob, scroll directory to the desired EDL file to write over, and press **PERFORM WRITE**. The "Confirm Operation" menu appears. Press **CONFIRM** to write, or **CANCEL** to abort. Selected edits (One, Group, All) will be written to the chosen file.

Named File — If a comments keyboard is connected to your ACE 25, type a file name on the keyboard, using maximum of eight characters. When RETURN is pressed *on the comments keyboard*, that name is used for the file to be written. In SMPTE format, the three-letter suffix ".EDL" is appended to the typed name. In CMX format, the three-digit suffix ".340" is appended to the typed name. Using the keyboard is the best way to identify your EDL files by name and function.

Numbered File — Enter a number on the keypad and press **FILE NUMBER**. This function writes over a file already on disk, using as reference the number in the left column of the directory. Press **CONFIRM** to write, or **CANCEL** to abort.

User Numbered File — Enter a number on the keypad. If SMPTE file format is selected, press **ACE[n].EDL**. If CMX file format is selected, press **CMX[n].340**. The

contents of the keypad will be appended to the prefix, and used to write the file name. If file already exists, you will be asked to **CONFIRM** or **CANCEL**.

4. Use the following five functions as necessary:

File Section

ACE 25 offers several options in choosing which portion of the file to write or print. Press **FILE SECTION**. The following soft key menu appears:

- Press **ONE** to perform action on highlighted edit only.
- Press **GROUP** to perform action on group of edits, between **MARK FIRST** and **MARK LAST** block markers.
- Press **ALL** to perform action on all edits in list.
- Press **TOP TO HERE** to perform action on group of edits between top of list and highlighted line.
- Press **HERE TO BOTTOM** to perform action on group of edits between highlighted line and bottom of list.
- Press **CANCEL** to abort and return.

If **ONE**, **GROUP**, or **ALL** is selected, the chosen option appears on the "Section" line in the File I/O window. If **TOP TO HERE** or **HERE TO BOTTOM** is selected, "Group" appears in the window.

File Format

Two types of *file* formats are standard on ACE 25: SMPTE and CMX-340. Both types can be written to the same file disk, but ACE 25 only supports the MS-DOS *disk* format; it does NOT support the CMX RT-11 disk format. MS-DOS enables ACE 25 to read, write, and remove files from disk, and enables operator to format and copy disks.

Note

ACE 25 uses MS-DOS® (Copyright 1987 Microsoft Corporation) for all system filing chores.

To change file formats, press **FILE FORMAT**. The following soft key menu appears:

- Press **SMPTE** to select SMPTE file format. "SMPTE" appears on "Format" line in File I/O window. All read, write, remove, etc., operations use SMPTE files.
- Press **CMX-340** to select CMX-340 file format. "CMX" appears on "Format" line in File I/O window. All read, write, remove, etc., operations use CMX-340 files.

Change Drive

As standard procedure, files should be written to drive B. However, if required, press **CHANGE DRIVE** to switch the current drive between A: and B:.

List Files

Pressing **LIST FILES** resets the selected drive, reads the directory, and displays the contents.

Return — Pressing **RETURN** hides the directory window and returns you to the File I/O Function Choice menu.

5-11 Read EDL Files

Use the following procedure to read back EDL files from the disk:

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.
2. Press **READ** on the File I/O Function Choice menu to access the EDL File I/O "Read" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Read" operation, "FROM" source is selected file from disk, and "TO" destination is (current memory).**
- **FILE SECTION is not displayed because ACE 25 always reads back entire file.**
- **PERFORM READ verifies requested action.**

3. Select any one of the following four methods to read an EDL file:

Perform Read — Using the knob, scroll directory to desired EDL file to read and press **PERFORM READ**. The EDL list will be read in to memory from the selected file.

Named File — If comments keyboard is connected, type file name on keyboard. When RETURN is pressed *on comments keyboard*, that name is used for "read." If ACE 25 cannot find file, the message

No Matching Files Found

is displayed.

Numbered File — Enter a number on the keypad and press **FILE NUMBER**. This function reads a file from disk, using as reference the number in the left column of the directory.

User Numbered File — Enter a number on the keypad. In SMPTE format, press **ACE [n].EDL**. If CMX format is selected, press **CMX [n].340**. The contents of the keypad will be appended to the prefix, and used to read the filename. If ACE 25 cannot locate the requested file on disk, the message

No Matching Files Found

is displayed.

4. At the conclusion of the "read," ACE 25 returns to the File I/O Function Choice menu.

5-12 Remove EDL Files

"Remove" is a straightforward extension of the previous "Read" and "Write" operations. Use this procedure to remove EDL files from the disk.

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **REMOVE** on the File I/O Function Choice menu to access the EDL File I/O "Remove" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Remove" operation, "FROM" source is selected file from disk, and "TO" destination is not applicable, as file will be erased from disk.**

- **FILE SECTION is not displayed because ACE 25 always removes entire file.**
- **PERFORM REMOVE verifies requested action.**

3. Select any one of the following four methods to remove an EDL file:

Perform Remove — Using the knob, scroll directory to desired file to remove, and press **PERFORM REMOVE**. The **REMOVE** operation must be confirmed before it will begin. Press **CONFIRM**, or **CANCEL** to abort.

Named File — If a comments keyboard is connected, type the desired file name on the keyboard. When RETURN is pressed *on the comments keyboard*, that name is used for the "Remove." Press **CONFIRM**, or **CANCEL** to abort.

Numbered File — Enter a number on the keypad and press **FILE NUMBER**. This function removes a file from disk, using as reference the number in the left column of the directory. Press **CONFIRM** to remove, or **CANCEL** to abort.

User Numbered File — Enter a number on the keypad. In SMPTE format, press **ACE [n].EDL**. If CMX format is selected, press **CMX [n].340**. The contents of the keypad will be appended to the prefix and used to remove the filename. If ACE 25 cannot locate the file, the message

No Matching Files Found

is shown. Press **CONFIRM** or **CANCEL**.

4. At the conclusion of "Remove," ACE 25 returns to the File I/O Function Choice menu.

5-13 Print EDL Files

Use this procedure to print EDL files to a serial or parallel printer.

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **PRINT** on the File I/O Function Choice menu to access the EDL File I/O "Print" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Print" operation, "FROM" source is selected file from disk, and "TO" destination reflects printer connected to system.**
- **PERFORM PRINT verifies requested action.**

3. Select the file section to print. Press **FILE SECTION** and select **ONE, GROUP, ALL, TOP TO HERE,** or **HERE TO BOTTOM.**

4. Select any one of the following four methods to print an EDL file:

Perform Print — Using the knob, scroll directory to desired file to print, and press **PERFORM PRINT.**

Note

Special file 0 (This File) is listed for print, permitting you to print current EDL in memory.

Named File — If a comments keyboard is connected, type the desired file name on the keyboard. When RETURN is pressed *on the comments keyboard*, that name is used for the "Print."

Numbered File — Enter a number on the keypad and press **FILE NUMBER**. This function prints an EDL file from disk, using as reference the number in the left column of the directory. If ACE 25 cannot locate the requested file on disk, the message

No Matching Files Found

will be displayed.

User Numbered File — Enter number on the keypad. In SMPTE format, press **ACE [n].EDL**. If CMX format is selected, press **CMX [n].340**. Contents of the keypad will be appended to the prefix and used to print the file name. If ACE 25 cannot locate the file, the message

No Matching Files Found

will be shown. Press **CONFIRM**, or **CANCEL**.

5. At "Print" conclusion, ACE 25 returns to File I/O Function Choice menu.

6. When printing begins, you have several I/O control options. Press SYS INIT, then **I/O CONTROL**. The following menu is displayed:

Halt Serial — Pressing **HALT SERIAL** terminates any serial communications in progress. This function applies mainly to **TRANSMIT** and **RECEIVE** operations.

Form Feed — When printer is idle, pressing **FORM FEED** advances printer to top of next page.

Printer Reset	Pressing **PRINTER RESET** resets printer with carriage return and line feed.
Halt Printing	Pressing **HALT PRINTING** terminates print in progress.

5-14 Copy EDL Files

Use this procedure to copy an EDL file to a new file name.

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **COPY** on the File I/O Function Choice menu to access the EDL File I/O "Copy" screen, which displays the following soft key menu:

Note

- **"Copy" requires two file names. On File I/O screen for Copy operation, "FROM" source is selected file from disk, and "TO" destination is also selected or named file.**
- **FILE SECTION is not displayed because ACE 25 always copies entire file.**

3. Select "FROM" file by any of the methods outlined above as with reading or printing files. The "FROM" line in left-hand window reflects the selected file.

4. When "FROM" name is selected, press **CHANGE TO**. The highlight moves to the "TO" line. At this point, two soft key changes occur:
   - **RETURN** changes to **CHANGE FROM**, which may be used to re-select "FROM" file.
   - **CHANGE TO** changes to **PERFORM COPY**, to verify copy procedure.

5. Select a "TO" file by any of the methods outlined above as with reading or printing files. The "TO" line in the left-hand window reflects the selected file.

6. When both the "FROM" and "TO" files are selected or named, press **PERFORM COPY**. This initiates the copy function.

7. At the conclusion of the "Copy," ACE 25 returns to the File I/O Function Choice menu.

5-15 Transmit EDL Files

Use the "Transmit" procedure to send EDL files to the serial port. Before transmitting, ensure that the serial port configuration (baud rate, parity, etc.) is identical on both the transmitting and receiving systems.

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **TRANSMIT** on the File I/O Function Choice menu to access the EDL File I/O "Transmit" screen, which displays the following soft key menu:

Choose a file or change a parameter: >

PERFORM TRANSMIT	FILE NUMBER	ACE{N} .EDL		FILE FORMAT	CHANGE DRIVE	LIST FILES	RETURN

Note

- **On File I/O screen for "Transmit" operation, "FROM" source is selected file from disk, and "TO" destination is serial port selected for file transfer.**
- **FILE SECTION is not displayed because ACE 25 always transmits entire file.**
- **PERFORM TRANSMIT verifies requested action.**

3. Select a "FROM" file by any method outlined above as with reading files. "FROM" line in the left-hand window reflects the selected file.

4. When the "FROM" name is selected, press **PERFORM TRANSMIT**. The transmission begins at this point, with verification of the number of bytes transmitted on the top line of the CRT.

5. Use the **I/O CONTROL** menu if you need to halt serial transmission. Press SYS INIT, **I/O CONTROL**, **HALT SERIAL**.

6. At the conclusion of the "Transmit," ACE 25 returns to the File I/O Function Choice menu.

5-16 Receive EDL Files

Use the "Receive" procedure to receive EDL files via the serial port. Before receiving, ensure that the serial port configuration (baud rate, parity, etc.) is identical on both the transmitting and receiving systems.

1. Press EDL then **FILE I/O** to display the File I/O Function Choice menu.

2. Press **RECEIVE** on the File I/O Function Choice menu to access the EDL File I/O "Receive" screen, which displays the following soft key menu:

Note

- **On File I/O screen for "Receive" operation, "FROM" source is selected serial port, "TO" destination is selected file on disk.**
- **FILE SECTION is not displayed because ACE 25 always receives entire file.**
- **PERFORM RECEIVE verifies requested action.**

3. Select a "TO" file to receive an EDL file from another system by any method outlined above as with reading files. The "TO" line in left-hand window reflects the selected file.

4. When the "TO" name is selected, press **PERFORM RECEIVE**. ACE 25 waits for transmission from the other system to begin, and when it does, verifies the number of bytes received on the top line of the CRT.

5. Use the **I/O CONTROL** menu if you need to halt serial reception. Press SYS INIT, **I/O CONTROL, HALT SERIAL**.

6. At the conclusion of the "Receive," ACE 25 returns to the File I/O Function Choice menu.

5-17 PRINT SCREEN FUNCTION

The information displayed on *any* data monitor screen can be printed on a dot matrix printer connected to the ACE 25. Press SHIFT then HOME to print the screen.

5-18 ERROR REPORTING

The ACE 25 displays error messages and maintains an error log—abilities which makes it easy for the operator to identify anomalies and repair problems.

5-19 Error Messages

Error messages, which are displayed on line 2 of the CRT, explain what happened in case of operator or computer error. For example, the error message

#1620: No devices available to do request

may appear if you ask for a source that is not hooked up, i.e., calling for C when there is no C VTR assigned; or the error message

#1578: Invalid timecode in timecode buffer

may appear if you press TRIM/SET ENTRY and there is no timecode number in the keyboard register, or if the timecode number is invalid, such as 24:00:00:31.

A complete listing of the error messages and recommended operation action is given in Appendix C, "Error Messages."

5-20 Error Log

ACE 25's unique error log is designed to assist Ampex Engineering in locating and fixing problems that may occur on the system. The error log, which is held in battery-backed RAM, records an error by name and number, and remembers the last 40 keystrokes preceding the error.

The software which runs ACE 25 is programmed in discreet modules of code. Each module has its own identification number and message, which help direct Ampex Engineering to the precise code location where the error occurred. Error messages appear on line 2 of the CRT if an error is generated.

To use the error log, follow these steps:

1. Connect any Centronics parallel printer, IBM compatible, to ACE 25's parallel printer port, located on the rear panel of the edit controller chassis.

2. To view and/or print the error log, press SYS INIT, then **MORE**. This brings up System Initialization Menu 2:

3. Press **SHOW HISTORY** to view the Error Log; press **PRINT HISTORY** to print the Error Log.

Note

If printer is not available and a bug occurs, transcribe on-screen Error and Command History. Then proceed to step number 4.

4. Fax or mail transcribed error log and associated bug report to Ampex Technical support.

Note

- **Ampex fax number: (415) 367-2551**
- **Ampex Technical Support: (415) 367-2812**

5-21 System Crash Identification

The ACE 25 can identify the source of a system crash if it should occur. In the event of a system crash, the editing session stops and the following information appears on the screen:

```
*** FATAL SYSTEM ERROR ***
*** PLEASE REPORT ERROR CODES ***
*** E=XXXX    P=XXXX    A=XXXX:XXX
*** X=XXXX    Y=XXXX    Z=XXXX:XXXX
```

Copy the information from the screen. Fax or mail it along with all error log information to Ampex, as described in paragraph 5-20.

Note

Since Error Log is stored in battery-backed RAM, if fatal system error occurs (System Crash), immediately on re-boot of system, print Error Log. This information helps Engineering identify cause of problem.

5-22 BLOCK MARKING

The following two paragraphs show you how to mark and unmark a block of edits, in preparation for learning Auto-Assemble and all advanced list management functions described in Section 7.

5-23 Marking a Block of Edits

Since it usually takes a *sequence* of edits to make up a scene and editors frequently want to rearrange scenes or perform a list management function on a group of scenes, ACE 25 makes it easy to manipulate a group or block of edits. For example, the director wants the scene with the dancing elephants to come *after* the singer, instead of before. There are two methods for marking a block of edits: by the soft keys and by the numbers.

To mark a block of edits by the soft keys:

1. Press EDL to bring up the EDL/List Management Menu 1:

2. Using the rotary knob, scroll the EDL and highlight the edit which is the first in the group.

3. Press **MARK FIRST**. The selected edit changes to reverse video.

4. Scroll the EDL and highlight the edit which is the last in the group. As you scroll, note that the reverse video block marker drags along with you. (If it is a long list, you can also use the "find" function to locate and mark the first and last edits in a group.)

5. Press **MARK LAST**. A "group" has now been defined.

The edit numbers in the group appear as reverse video on the EDL display to indicate that they are linked. In ACE 25, there are numerous functions that you can perform using a defined "group" of edits:

- Copy
- Move
- Renumber
- Slide record entry times
- Clean tails
- Ripple
- Auto-assemble
- Set or clear recorded indicators
- Change reel numbers
- Print
- File
- Delete

To mark a block of edits by the numbers:

1. Type the number on the keypad of the edit which is the first in the group.
2. Press **MARK FIRST**.
3. Type the number on the keypad of the edit which is the last in the group.
4. Press **MARK LAST**.

For example, if there are 100 edits in the EDL, and you wish to mark a block (group) of edits starting with edit 35 and ending with edit 87, mark first and last edits by the number as follows:

1. Enter 35 on the keypad.
2. Press **MARK FIRST**.

3. Enter 87 on the keypad.

4. Press **MARK LAST.**

Once a group is marked and you are performing an Auto-assemble or list management function, use the **GROUP** soft key on the familiar One, Group, All menu:

Note the other two choices available on the above soft key menu for "group" action: **TOP TO HERE** and **HERE TO BOTTOM** . These variations of **GROUP** perform an action on the EDL from the top or bottom of the list to the highlighted line accordingly, *without* re-marking the highlighted group.

5-24 Unmarking a Block of Edits

To clear the block markers from the EDL:

1. Press CLEAR.

2. Press either **MARK FIRST** or **MARK LAST** as appropriate. The status message

   All marks are cleared

   appears on the CRT.

5-25 AUTO-ASSEMBLY CONTROL

Auto-assembly or auto conforming is a term meaning a program or sequence of edits is assembled from an edit list. The ACE 25 performs Sequential Auto-Assembly (see glossary), sometimes called A-mode assembly.

To perform an auto-assembly on the EDL:

1. Press EDL. Note that the EDL title line brightens to indicate that you are working in the EDL area, *not* the ECL area.

2. Ensure that all "Recorded" indicators have been cleared on the edits to be assembled. See paragraph 5-27 for details on recorded indicators.

3. Mark first and last edits of the group you want to auto-assemble.

4. Press PREVIEW to preview the auto-assemble.

5. Press PERFORM (PREVIEW + EDIT) to record the auto-assemble.

ACE 25 cues the VTRs involved in each edit and performs the edits in sequence. The auto-assemble may be halted at any time using ALL STOP.

When an auto-assemble begins, the following Auto-assemble soft key menu is displayed:

Auto–assembly control options: >

PAUSE AUTOASSY	SKIP EDIT	CONTINUE AUTOASSY	ABORT AUTOASSY				RETURN

Auto-assemble menu can also be accessed directly from the EDL/List Management Menu 3. Options of the Auto–assemble menu comprise:

Pause — When **PAUSE AUTOASSY** is pressed during an assembly, all devices (transports and switchers) involved in current edit are stopped. Message on CRT line 1 informs editor of pause. **PAUSE AUTOASSY** can be pressed any time during assembly.

Skip — When **SKIP EDIT** is pressed, current edit is skipped. All devices in edit are stopped and message on CRT line 1 informs editor that current edit has been skipped. Assembly recommences automatically, starting with edit after skipped edit.

Continue — To continue assembly that has been paused, press **CONTINUE AUTOASSY**. Assembly is continued from current edit. Message on CRT line 1 informs editor that assembly is continuing.

Abort — To terminate assembly in progress, press **ABORT AUTOASSY**. All devices involved in current edit are stopped. Message on CRT line 1 informs editor that assembly has been cancelled. This is the same as using ALL STOP.

Note

If edits selected for assembly include reels that are not mounted, editor is prompted to mount appropriate reel and continue. At this point, editor can also choose to skip the edit.

5-26 DELETING EDITS

To delete one edit, a group of edits, or all edits in the EDL:

1. Press EDL.

2. Using the rotary knob, highlight the edit you want to delete, or mark a group of edits as outlined in paragraph 5-22.

3. Press **MORE** on the EDL/List Management Menu 1. This brings up the EDL/List Management Menu 2:

4. Press **DELETE** on the EDL/List Management Menu 2 to bring the One, Group, All menu to the screen.

5. Press **ONE**, **GROUP**, or **ALL** to indicate that one edit, a group of edits, or all edits are to be deleted. Or, as required, press **TOP TO HERE**, or **HERE TO BOTTOM**.

6. To protect you from accidentally erasing material, the ACE 25 asks you to confirm this choice. Press **CONFIRM**.

5-27 RECORD INDICATORS

Each time an edit enters the EDL, the letter "R" appears to the right of the edit number, indicating that the edit was recorded. Figure 5-2 shows three edits that were recorded and two that were not.

Edit	Src	V12	Effect	Src Entry	Src Exit	Rec Entry	Rec Exit
1	10	V12	Cut	1:00:00:00	1-00-05-00	4:00:00:00	4:00:05:00
2	10	V12	Cut	1:00:05:00	1-00-10-00	4:00:05:00	4:00:10:00
3R	10	V12	Cut	1:00:10:00	1-00-15-00	4:00:10:00	4:00:15:00
4R	10	V12	Cut	1:00:15:00	1-00-20-00	4:00:15:00	4:00:20:00
5R	10	V12	Cut	1:00:20:00	1-00-25-00	4:00:20:00	4:00:25:00

Figure 5-2. Sample EDL with "Recorded" Indicators

The following rules govern "Recorded" indicators:

Auto-Assemble — When EDL is used for auto-assembly, any entries with recorded flag set will not be recorded. These must be cleared prior to assembly. You may want to leave recorded flags set in a group of edits to purposely skip over them.

Next — Use of **NEXT** places edit in EDL *without* record indicator.

Recall Edit — Use of **RECALL EDIT** removes record indicator from edit event recalled from EDL.

Disk Filing — Recorded flags written to disk are also read from disk.

List Management — Recorded flag in EDL entry can be reset when editor performs specific list management operations. Other list management functions do *not* reset recorded flag. If reset, recorded flag resets for all selected entries whether individual edit was modified or not. Table 5-2 shows list management functions and status of recorded flag when each function is performed.

List Management

Recorded flag in EDL entry can be reset when editor performs specific list management operations. Other list management functions do *not* reset recorded flag. If reset, recorded flag resets for all selected entries whether individual edit was modified or not. Table 5-2 shows list management functions and status of recorded flag when each function is performed.

Table 5-2. List Management Functions and Recorded Flags

List Management Function	Recorded Flag
Ripple	Reset
Slide	Reset
Clean Tails	Not Reset
Copy After / Before	Not Reset
Move After / Before	Not Reset
Sort	Not Reset
Renumber	Not Reset

Recorded flags can be set or cleared for any selected EDL entry: one, group, or all. Use following procedure to set or clear recorded flags:

1. Press EDL.
2. Mark a group of edits. (Refer to paragraph 5-23, Marking a Block of Edits.)
3. Press **MORE**, then **MORE** to bring up EDL/List Management Menu 3:

4. Press **SET RECORDED** to set recorded flags on selected edits. Press **CLEAR RECORDED** to remove recorded flags on selected edits.

5. Select **ONE**, **GROUP**, or **ALL**, and **CONFIRM**.

Note

SET or CLEAR RECORDED function can be cancelled by pressing CANCEL on ONE, GROUP, ALL, or CONFIRM soft key menus.

5-28 COMMENTS KEYBOARD

The comments keyboard permits you to type comments in an edit line, store them in the EDL, and type alphanumeric file names.

Note

Comments keyboard is an option to ACE 25 system.

The following rules govern the comments keyboard:

EDL Comments	Type comment with comments keyboard connected in rear of ACE 25's keyboard. Reverse video with cursor appears above edit. Use RETURN *on comments keyboard* for new line. To accept comment, press HOME or use ↑ (arrow up) or ↓ (arrow down) to scroll to edit line. To append a comment, scroll to the comment line and type. Use **DELETE LINE** to remove a comment.
EDL and Configuration File Names	For all File I/O operations file name may be typed on comments keyboard. When RETURN is pressed *on comments keyboard*, that name is used for the function.
Initialization Field Names	On System Options menu, scroll to desired field (Editor, Edit Bay, etc.) and type. Press RETURN on comments keyboard to accept.

Note

On comments keyboard, following keys are active for editing: ← (arrow left), → (arrow right), INS, BACKSPACE, and DEL.

CAUTION

ONLY AMPEX, IBM, AND IBM-COMPATIBLE COMMENTS KEYBOARDS FUNCTION WITH ACE 25. USING ANY OTHER ASCII COMMENTS KEYBOARD MAY CRASH SYSTEM.

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